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INTRODUCTION

The **8th edition of the International Scientific Conference** entitled **IFRS: Global Rules & Local Use – Beyond the numbers was organised online jointly by the** Anglo-American University in Prague and Metropolitan University Prague on October 8 and 9, 2020.

This year the conference turned to be a big challenge because we had to overcome obstacles stemming from the lack of face to face contact due to pandemic crisis COVID-19. The conference was organized fully online. The conference gained a new dimension using virtual communication techniques. There were more than 100 visitors and participants during the conference days.

The proceedings include contributions authored by conference participants presented during the conference. They have been reviewed and accepted by the conference editorial team and international external reviewers.
Programme was organized in two days live online meetings and the program is as follows:

<u>Day I Thursday, October 8th</u>

Opening ceremony
Peter Bolcha | Irena Jindřichovská | Michal Klíma (Rector MUP) | Štěpán Müller (Rector AAU)

Keynote Speakers I – Chairs: Irena Jindřichovská & Peter Bolcha

- Welcome Chitchat | David Alexander (performed by David Muir)
- The Role of the Local Context and Historical Background in Shaping How International Frameworks are Implemented in CEE (Nadia Albu, co-author Catalin Nicolae Albu)
- Implementation of European Single Electronic Format (ESEF) in the Czech Republic (Aleš Králík)
- How the COVID-19 Will Change the Global Economy? (Luboš Smutka; co-author Lubomír Civín)

Keynote Speakers I - Discussion
Thursday sections:

- **Reporting and IFRS I** – Chair: Irena Jindřichovská
- **Interdisciplinary Works** – Chair: Miroslav Svoboda
- **Reporting and IFRS II** – Chair: Irena Jindřichovská
- **Integrated Reporting** – Chair: Luboš Smutka
- **International Trade** – Chair: Jaroslav Halík

Open discussion in online Lounge Room

<u>Day II Friday, October 9th</u>

Keynote Speakers II – Chairs: Irena Jindřichovská & Peter Bolcha

- COVID-19 and State support: Between Hopes and Fears for the Economy (Lubor Lacina)
- EU and China Trend in Trade in Challenging Times (Erginbay Ugurlu co-author, Irena Jindřichovská)

- A Long Road to Fintech (Peter Lerner)
- Financial Markets and Pension Systems Across the EU (Eleftherios Thalassinos)

Keynote Speakers II – Discussion
Friday sections:
- **Market Based Reporting and Non-financial Reporting** – Chair: David Muir
- **Legal Aspects** – Chair: Radka MacGregor Pelikánová
- **Capital Market** – Chair: Peter Lerner
- **Non-financial Reporting** – Chair: Pietro Andrea Podda
- **Other / Accounting / Quantitative** – Chair: Peter Bolcha

Closing and Official End of the Conference
Peter Bolcha; Irena Jindřichovská

Reporting and IFRS

APPROACHES FOR DETERMINING LEASE TERMS

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Abstract
Leasing contracts can be flexibly structured with regard to their term, for example through options. For accounting purposes, however, it is always necessary to assess whether the exercise of an option is reasonably certain. The authors suggest using the future economic success of the offered services or products for which the asset is leased. In that case, the decision inherently deals with uncertain outcomes because in rare circumstances only, can a future market situation be predicted with certainty. The dominant measures used in risk management are applied. A scenario approach is presented in which narrative and probabilistic elements are combined that allow assessing the prospective medium-term economic usefulness by calculating the median or the expected value of the uncertain outcomes.

Keywords: *lease term, IFRS 16, criterion "more likely than not", criterion "reasonably certain", narrative scenario, probabilistic scenario*

1. INTRODUCTION

After many years of discussions in science and practice (Bohušová, Svoboda, & Blašková, 2014), payments from leasing contracts must be capitalized in the balance sheets as of January 1, 2019. The amount of the lease liability is determined by the present value of the outstanding lease payments over the **lease term** (IFRS 16.26). The determinants of the amount of the lease liability in the course of calculating the present value are therefore

- the **term of the lease** and the resulting scope of the lease payments to be included in the present value calculation,
- the amount of the **lease payments** and
- the **interest rate** used for discounting.

The initial valuation depends on the input factors (lease term, payments and interest rate) of the net present value model. The comparison of annuity present value factors of varying interest or discount rates with regard to constant terms illustrates the importance of determining the lease term as the primary factor influencing the present value (Orth, Tettenborn, & Nell, 2020, 369). The variation in the interest rate used for discounting has a significant effect only for long-term leases due to the discounting effect. In the course of implementing the new lease accounting under IFRS 16, companies have recognized that is difficult to estimate the terms of leases. This is because continuing obligations resulting from lease contracts are sometimes entered into without a fixed term or with the possibility of extending or shortening fixed terms.

The aim of this paper is to present approaches for determining the lease term using the indicators presented in IFRS and, beyond that, using probabilistic methods for giving a traceable basis that allows remeasuring lease liabilities without contradicting the initial assessment at the commencement date.

The paper is structured as follows: In the second section, possibilities for structuring leasing agreements with regard to their term are presented, whereby a distinction is made between extension and termination options. In the third section, the main section, a model for determining the lease term using probabilistic methods is developed. The paper ends with a conclusion.

2. POSSIBLE ARRANGEMENTS FOR LEASE TERMS IN LEASE AGREEMENTS

The design of a contract is basically left to the contracting parties involved due to the contractual freedom and is often influenced by economic, legal and tax considerations (De Martino, 2011, 358). Therefore, both fixed-term and indefinite duration contracts are possible (see for more information Orth & Tettenborn, 2019, 375). For example, contracts can be concluded with a fixed term of two years. Furthermore, it is possible to grant the lessee or lessor the option of extending a lease prematurely for a fixed period. An extension can, for example, be structured in such a way that one or more extension options are contractually agreed upon. The lessee can make use of these options by giving notice to the lessor.

In practice, there are also cases in which contracts have indefinite lease terms or in which contracts switch to indefinite term (after the expiry of a fixed term) if the lessee does not exercise the option of terminating the contract.

In accordance with IFRS 16.B37, the lease term and thus the above-mentioned agreements must initially be assessed at the commencement date, i.e. the date on which the asset is available for use. At the same time IFRS 16.22 must be considered, i.e. a lessee shall recognize a right-of-use asset and a lease liability at the commencement date.

The duration of the basic term as the minimum to be taken into account in calculating the present value is determined by the existence of enforceable rights of both parties.[1] According to IFRS 16.B34, a lease is no longer enforceable when the lessee and the lessor each have the right to terminate the lease without permission from the other party with no more than an insignificant penalty. Therefore, extraordinary termination rights that may result in insignificant disadvantages, such as minor penalties, are irrelevant for determining the non-cancellable basic term. The non-cancellable basic term is therefore the minimum period to be taken into account when calculating the present value. This estimation shall be adjusted over time if an event changes the related assessment or if one party actually exercises an option (IFRS 16.B41). If rent-free periods are contracted, these must be included in the term (IFRS 16.B36).

The basic rental period must be extended if the lessee is expected to exercise the extension option with “reasonably certain”-certainty (section 2.1). On the other hand, the basic term has to be reduced if the lessee is “reasonably certain” to exercise a termination option (section 2.2).

2.1 Extension Options

In cases in which the lessor is entitled to exercise an extension option, the option must always be regarded as exercised and therefore included in the measurement of the lease term (IFRS 16.BC128).

In cases allowing a unilateral extension of the contract, the lessee’s considerations of extending the contract is relevant for defining the lease term for accounting purposes under IFRS 16. If

[1] If there are no enforceable rights for the lessee, in the absence of a binding contract, the recognition of a lease liability and a right of use is not applicable in accordance with IFRS 16.18.

the lessee is seen as "reasonably certain" to exercise the option, then, when calculating the present value, the lease term has to cover the additional period.

For scrutinizing the probability of contracting an extension option, all relevant facts and circumstances are to be regarded, including all future changes that may occur until the option is actually exercised. Further, existing ancillary agreements and other contracts related to the leasing relationship, such as subleases, must be included in the assessment.

The following general factors indicate the (non-)exercise of (termination) extension options (KPMG, 2019, 5.1.65.30; EY, 2020, 1668):

- the existence of significant leasehold improvements (IFRS 16.B37b),
- a short basic term of the lease agreement compared to the economic life of the underlying leased asset (IFRS 16.B40),
- the basic possibility of a replacement investment and the associated costs in the event of the option being exercised (IFRS 16.B37 c),
- the high individual significance of the underlying leased asset for current business operations, in particular the existence of a so-called specialized asset (IFRS B.37 d).

The following specified factors indicate the probability of exercising an option (IFRS 16.B37). **Contractual factors** regard the case to see if variable or other conditional payments in the form of penalties and residual value guarantees as well as any dismantling and restoration costs resulting from the exercise of the option are contracted (IFRS 16.B37). In addition, **asset-specific factors** – such as the physical location of the asset and the relocation and replacement opportunity costs resulting from the exercise of an option – as well as **company-related factors** based on management's planning with regard to the integration of the asset underlying the lease into the company's operations are to be considered. Finally, **market-related factors** must be taken into account by comparing the payments resulting from the exercise of the option with the normal lease payments for comparable leased assets (IFRS 16.B37). A follow-up rate above the standard market leasing rate at the time of exercise indicates that the underlying contract option will not be exercised.

It should be mentioned that in practice all factors can be addressed altogether. This can be observed, for example, in the aviation industry due to the Covid 19 pandemic: the business environment has changed remarkedly. It is expected that private and business meetings are substituted by video conferencing. Such market-related or environment-related factors can result in the situation that the leased asset is economically obsolete (for detailed analyses see e.g. Kotler, Keller, Brady, Goodman, & Hansen, 2016; Porter, 1998) and that the exercise of an extension option is not acceptable. These effects outmatch the factors mentioned above.

The model to be presented (section 3) focuses on these market-related or environment-related factors by estimating the economic usefulness of the leased asset on a singular or combined basis. The economic usefulness is measured by the economic success of the services and products offered for which the asset is leased. If the future economic success cannot be regarded as "more likely than not", then the probability of extending the contract cannot be classified as "reasonably certain".

2.2 Termination Options

The consideration of termination options requires a further differentiation with regard to the existence of asymmetrical and symmetrical termination options.

Whereas in the case of symmetrical termination options, both the lessee and the lessor have the right to terminate the lease prematurely, only one party to the contract has this right if asymmetrical termination options are presented. If an asymmetrical termination option exists on the lessee side, the option period must be included in the calculation – analogous to the procedure for an extension option – depending on the probability of exercise (IFRS 16.B37). In accordance with IFRS 16.35, a termination option to which the lessor is entitled is irrelevant in determining this, so that the term to be determined also includes the period during which the termination option exists.

In a second case, i.e. symmetrical termination options, both the lessee and the lessor have the right to terminate the lease prematurely. Then the existence of penalties and their amount must be taken into account (IFRS 16.B34; EY, 2020, 1670). According to the agenda decision of the IFRS IC, the term "penalty payment" includes all economic disadvantages resulting from the termination of the contract and is therefore not limited to the cash outflow resulting from the termination of the contract (IFRS IC, 2019).

If the economic disadvantages of both contracting parties are minor, the inclusion of the termination period in the determination of the lease term is not applicable, as the agreement – in the absence of enforceable rights and obligations – is not binding for this period within the meaning of IFRS 16 (IFRS 16.B34).

If the lessee has only a minor economic disadvantage in the event of termination, whereas the lessor suffers a significant economic disadvantage, the lessee's assessment mainly determines whether or not a termination option is exercised (IFRS 16.BC128). Again, the probability of exercising the termination option has to be assessed as "reasonably certain". If not, then the lease term is limited to the date on which the lessee or lessor can terminate the lease for the first time.

In cases, on the other hand, when the termination of the lease results in a significant economic disadvantage for the lessee, whereas the lessor suffers only a minor economic disadvantage, the lessee's termination option – which is merely a formal one – is irrelevant. In the course of determining the term of the lease, in this constellation the termination period is not to be included in the lease term, analogous to the procedure in the case of an asymmetrical termination option on the part of the lessor.

If, for both parts, significant economic disadvantages are to be expected, then the point in time at which the major economic disadvantages firstly turn into minor economic disadvantages must be taken into account (IFRS 16.B34).

The model to be presented (section 3) covers the assessment of exercising a termination option as well as exercising an extension option. If the future economic success of the offered services or products for which the asset is leased cannot be regarded as "more likely than not" then the probability of terminating the contract can be classified as "reasonably certain".

3. THE DETERMINATION OF THE LEASE TERM USING PROBABILISTIC METHODS

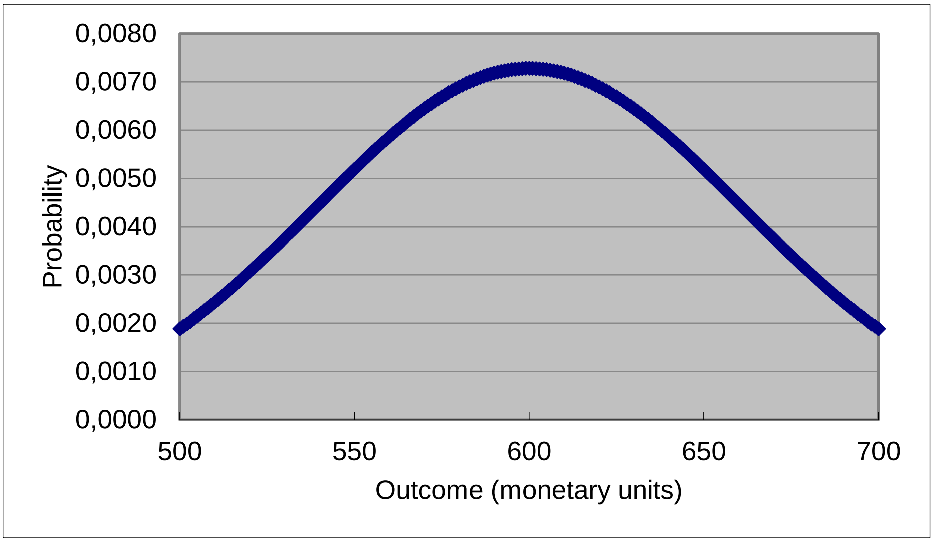
3.1 Operationalization of the criterion "more likely than not" as lower bound of the criterion "reasonably certain"

Due to the lack of specifications regarding the weighting of the aforementioned factors, a considerable discretionary scope is available to the preparer of the financial statements. Since the threshold of "reasonably certain" is not quantified within the standard, it can only be derived indirectly from other probability thresholds that are also found in other standards. Although reasonable certainty obviously exceeds the 51% rule of IAS 37.23 ("more likely than not") as a criterion for the recognition of a provision, it does not exceed the level required for the accrual of a contingent asset in accordance with IAS 37.33 ("virtually certain") with a probability of more than 90%.

To operationalize the 51% rule, the decision maker faces a challenge when working with events that could lead to more than two possible outcomes, as is the case with most business decisions. Since the conclusion of significant leasing agreements over a long period of time can lead to the outflow of considerable sums of money, estimates of the lease term – irrespective of the balance sheet presentation – are useful. A glance at investment decisions can help to understand the importance of estimating these lease term and the underlying options better. Investment decisions can lead to financial burdens, as can the conclusion of leasing agreements. In the following example, it will be assumed that the profit contribution of an investment object serves as a benchmark for the investment decision. This should be a good benchmark, in particular for leases of office buildings of distribution companies.

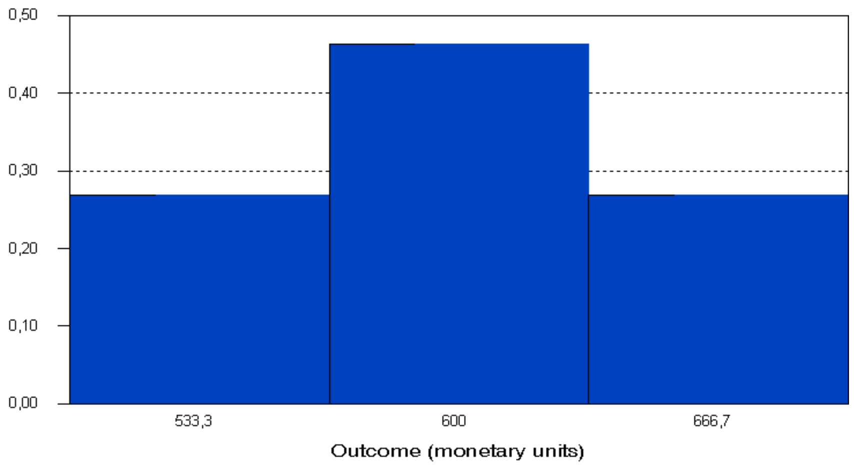
When assessing an investment (regardless of whether it was purchased or leased) the expected profit contribution cannot be described by two dichotomous events, e.g. success vs. non-success. For example, regard a case in which the profit contribution lies between 500 and 700 monetary units (with a 90% probability) and in which the outcome can be described by a Gaussian normal distribution (a double truncated normal distribution with 90% truncation range). Here, the probability of occurrence of the most likely outcome (600 monetary units) is 0.0073 (figure 1). Even if classifying the outcome in three intervals with equal bandwidths, then the probability of occurrence of the most likely interval (interval midpoint: 600 monetary units) is 0.46 (and not .51) (figure 2).

Figure 1. Point probabilities of outcomes (double truncated normal distribution)



Source: Own representation

Figure 2. Interval probabilities of outcomes (derived from double truncated normal distribution)



Source: Own representation

Therefore, it seems more appropriate to use the risk measure's logic "Value at Risk (VaR)" for determining whether an investment would lead to economic success. That risk measure VaR utilizes the characteristic of the cumulative distribution function (Jorion, 2006, 105–130; Huschens, 2017, 53–57) – which is a broadly accepted approach in probabilistic risk management (e.g. Aven, 2016).

The cumulative distribution function sums up the probabilities of a quantitative (discrete or continuous) random variable after ordering the outcomes by value in ascending order. Regarding a certain outcome, its cumulative probability describes the probability of occurrence for all outcomes ranging from the lowest numerical value up to (and including) the value of the regarded outcome. Therefore, it describes the probability of occurrence of a group of outcomes (given stochastically independent events and outcomes) – with the regarded outcome as the upper bound of that group.

When reversing the point of view: If the cumulative probability of occurrence is defined by $p_{cum.}$=.5 (the median), then the corresponding value describes the highest numerical value reached by a group of outcomes that occurs with a probability of $p>=.5$. This means, that numerical value will be exceeded by events with higher outcomes with its complementary probability of occurrence of $p<.5$.

Therefore, it is "more likely than not" that this value will be undercut by outcomes with a lower value, or, vice versa, it is "less likely than not" that this value will be exceeded by outcomes with a higher value (for probability expressions see e.g. Kasprik, 2020).

In applications of the risk measure VaR, a higher confidence level than "more likely than not" is imperative. Therefore, the probability of occurrence of the group with higher values (as this group usually stands for unfavorable outcomes, e.g. expected credit losses) is defined higher than $p=.5$ (commonly between $p=.9$ and $p=.99$). The outcome, e.g. derived from $p_{cum.}$=.9, can be expected to be exceeded with a probability of occurrence of $p<.1$ – that means, it is "extremely likely" that this value will be undercut, or "completely unlikely" that this value will be exceeded.

To sum up, the median describes the outcome that is "more likely than not" to be undercut by outcomes with a lower value.

In cases where higher numerical values indicate more <u>unfavorable</u> outcomes (e.g. costs or expected credit losses), the more favorable outcomes are located on the left side of the cumulative distribution function. To make the probability of occurrence greater than $p=.5$ for the group of the more favorable outcomes, the median has to be <u>included</u> as upper bound in order to conclude that the less favorable outcomes are less likely to occur.

In cases where higher numerical values indicate more <u>favorable</u> outcomes (e.g. profit contributions, sales in value), the more favorable outcomes are located on the right side of the cumulative distribution function. To make the probability of occurrence greater than $p=.5$ for the group of the more favorable outcomes, the median has to be <u>excluded</u> as upper bound in order to conclude that the less favorable outcomes are less likely to occur.

However, deploying the median as a criterion leads to a practical challenge when two or more random variables are to be combined to a joint distribution (as in probabilistic scenario building). This is, for example, the case when assessing the value of expected credit losses when applying IFRS 9 (financial instruments) (following Basel Committee on Banking Supervision, 2015, 15; Gaudin, 2016). At least two independent influencing factors are to be regarded: risk group characteristics (e.g. the company's financial stability or the market position) und, further, macroeconomic factors (e.g. the maturity level of the industry, the industry's cyclicality or governmental regulations).

The challenge lies in the necessity that the assessment of the median needs a full enumeration of all outcomes (in case of discrete random variables) or a Monte-Carlo-

Simulation (in case of continuous random variables) – and the support of risk management software.

In a more convenient (and accepted; e.g. Basel Committee on Banking Supervision, 2005; Natarajan, Pachamanova, & Sim, 2009) approach, the expected value is used as indicator for the median. Especially when working with joint distributions, the expected value has the advantage that it can be calculated from the expected values of the original probability mass functions or distribution functions. The expected value is identical with the median in cases of a unimodal symmetric distribution. In cases of slightly skewed distributions, the expected value lies near to the median. Only in cases of strongly skewed (unimodal) distributions (e.g. Bernoulli's St Petersburg Paradox), can the expected value not be used as indicator (Olofsson & Andersson, 2012, 104–108).

3.2 Multiple scenario analysis

The model propagated here belongs to the group of semi-quantitative scenarios (Kok & van Delden, 2013; Mallampalli et al., 2016). This means, it is not built on quantitative input-output-analyses combining and evaluating all possible effects. It uses the advantages of narrative scenario-technique by asking experts to combine relevant combinations of influencing factors. Through that, two-sided dependencies of influencing factors can be integrated – and just a manageable number of multiple scenarios are to be created. The quantitative element (in "semi-quantitative") refers to the fact that the consequences for the target variable (the outcomes) are to be assessed. The expert's assessments of the target value (e.g. profit contribution) should in any case be reconcilable with medium-term corporate planning. In other words, if the company does notice a probable insufficient profit contribution during the lease term, it cannot be assumed, for example, that an extension option will be exercised.

The usage of semi-quantitative scenarios is based on the logic recommended for financial institutions and deployed by governmental organizations for evaluating their institutions through stress-testing (Baudino, Goetschmann, Henry, Taniguchi, & Zhu, 2018). There, it is strongly recommended to assess expected credit losses not only with regard to risk group characteristics but also with regard to a second factor, the macroeconomic situation (Basel Committee on Banking Supervision, 2015, 15; Gaudin, 2016).

The authors propose to follow this approach and to evaluate the term of a lease contract using two independent main factors: a first one, in which the interrelated and mutually influencing behaviors of the market actors are combined to create three to five relevant scenarios. Two of them describe the minimum and the maximum of the target variable (the lower resp. the upper bound of the bandwidth) and one to three remarkable circumstances which lead to relevant consequences (e.g. step-fixed costs influencing the contribution margin) or which represent inflection points of the underlying distribution function or probability mass function.

In the second main factor, such (sub-)factors are integrated that independently boost or lessen the value of the target variable (e.g. stimulating economic programs, the rate of exchange, the Gross Domestic Product). Also, these sub-factors are condensed to three to five plausible and consistent scenarios through narrative scenario building. Two of them describe the minimum resp. the maximum of the target variable (the lower resp. the upper bound of the bandwidth). Examples of independent environmental factors can be derived from common PEST-analysis (Pitkethly, 2003; Wright, Cairns, & Goodwin, 2009).

Dividing the influencing factors in two main factors is advantageous because it allows a traceable, transparent and practicable scenario creation – as it is recommended by the 2x2-matrix approach (Shoemaker, 2004). In cases where a more sophisticated approach with a higher number of main influencing factors is demanded, cross-impact methods can be deployed (e.g. Weimer-Jehle, 2006). The consequence of an increasing number of main factors is an exponentially increasing number of scenarios to be judged and assessed.

For extracting the above-mentioned three to five relevant scenarios per main factor, it is useful to start with eliciting the probable (behavioral) bandwidth per sub-factor. It is recommended that the minimum and the maximum should not regard exceptionally unlikely circumstances. As a rule of thumb, the minimum and the maximum should at least be probable in 1 out of 20 probable events (quantile5 resp. quantile95) – or, in cases of extreme consequences, at least be probable in 1 out of 100 probable events (quantile1 resp. quantile 99) (Bonano, Hora, Keeney, & Winterfeldt, 1990, 27, 35). After eliciting each bandwidth, the subject matter expert combines the probable (behavioral) consequences through building narrative scenarios and assesses the value of the target variable (the outcome) per scenario. If necessary, the above-mentioned cross-impact methods (e.g. Weimer-Jehle, 2006) can support scrutinizing the underlying assumptions with regard to internal consistency. These analyses result in point-values of the target variable per scenario and main factor.

For calculating of the median or the expected value, it is necessary to elicit probabilities for each value. As the three to five scenarios per factor do not represent the event space, and as psychological attitude research suggests a maximum of five to seven response categories for discrimination tasks (Lozano, García-Cueto, & Muñiz, 2008; Revilla, Saris, & Krosnick, 2014), it is proposed to interpolate linearly the missing values (EFSA, 2014, 86).

For eliciting the probability of each value, different methods are available (Bonano et al., 1990; EFSA, 2014; Spetzler & Staël von Holstein, 1975). "Fractile" and "open interval" techniques demand assessing measures of dispersion (e.s. the quartiles) and therefore need a deep knowledge of diverse cumulative distribution functions. In the authors' opinion, this necessity compromises the goodness of the probability assessments.

The authors suggest the usage of another method, the "relative likelihood technique" (Bonano et al., 1990, 34; Lindskog, 2013, 38; Oakley, 2010; Swain & Guttmann, 1983, 8_9). There, the probabilities of the values of the target variable are calculated from the probability ratios of one interval to the dominant interval, often the most likely interval. The expert has to give the relation of the probability of the interval in question to the dominant interval. Alternatively, she has to state the relative frequency of occurrence of the asked interval in relation to the dominant interval (e.g. 100 times). These ratios allow deriving mathematically the probability of occurrence of all intervals (Ludke, Stauss, & Gustafson, 1977, 166).

In the original form of the relative likelihood technique, the target variable's bandwidth is divided into three to seven equally spaced intervals between the upper and the lower bound. But, if one would follow this approach here, the information derived from narrative scenario creation (the point estimations of the three to five relevant scenarios per main factor) would be lost. As pointed out, the scenarios ideally describe remarkable outcomes of the target variable – and perhaps the inflection points of the probability mass or distribution function.

Further, in order not to lose the information derived from scenario creation, the number of intervals are to be varied that the point estimations besides the minimum and maximum scenario (as these represent the upper and the lower bound of the bandwidth) become interval midpoints. Without that adjustment, the interpolation, used for calculating the midpoints between the scenarios, would be inconsistent to the goal of eliciting the interval's midpoints. The authors' simulations show that an adequate solution can be found between 15 and 30 intervals.

For reason of exemplication, the following (fictitious) decision situation is worked out. A distribution company plans to serve a foreign market and evaluates the initial lease of an office building. The asset's usefulness is given if the expected sales in value will robustly exceed 900' monetary units per year during the (initial) lease term. (For distribution companies, sales in value are one of the most important components of profit contribution. Nevertheless, the model can be adapted to an assessment of the contribution margin after estimating direct costs.)

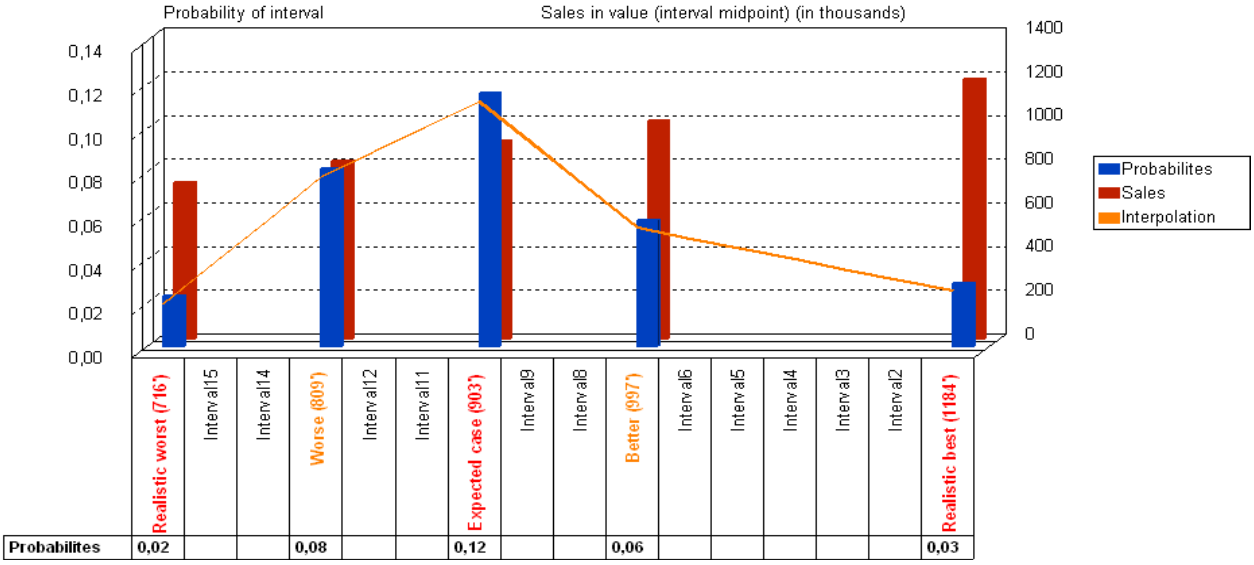
The decider operationalizes the market-driven influences (the first factor) by analyzing the prospective behavior of (1) the buyers, (2) the competitors, and (3) the lessee itself. Based on historic data and market forecasts, the most unfavorable but still realistic behavior (for deriving the minimum of the target variable's bandwidth; the "realistic worst-case scenario") and the most favorable (but still realistic) behavior (for deriving the maximum of the target variable's bandwidth; the "realistic best-case scenario") are assessed for the buyers and the competitors. Out of the nine combinations, three more scenarios are created representing the most probable scenario (the "expected case") and two midpoint scenarios that will relevantly influence the contribution margin.

In that case, 16 intervals were chosen for approximating the scenario's point values to interval midpoints. The interval midpoints of the prospective sales in value, the interval probabilities and the interpolated data are given in figure 3.

The second main factor ("Gross Domestic Product-driven deviations") is operationalized as change factor with which the market-driven sales are multiplied when deriving the joint distribution. Based on the company's internal statistics, the consequences of the probable variations of the Gross Domestic Product (GDP) on the total industry revenue are assessed. The interval midpoints of the prospective change factor, the interval probabilities and the interpolated data are given in figure 4.

Figure 5 gives the results of the joint distribution ("market-driven sales" x "GDP-driven deviation"), showing the cumulative probability mass function, the median and the expected value of the fictitious example (calculated with "DPL Version 9", Syncopation Software). The initial assessment shows the exceedance of the goal of 900' monetary units by the median (900908) and the expected value (911862).

Figure 3. Probabilities and outcome of the first main factor market-driven sales



Source: Own representation

Figure 4. Probabilities and outcome of the second main factor GDP-driven deviations

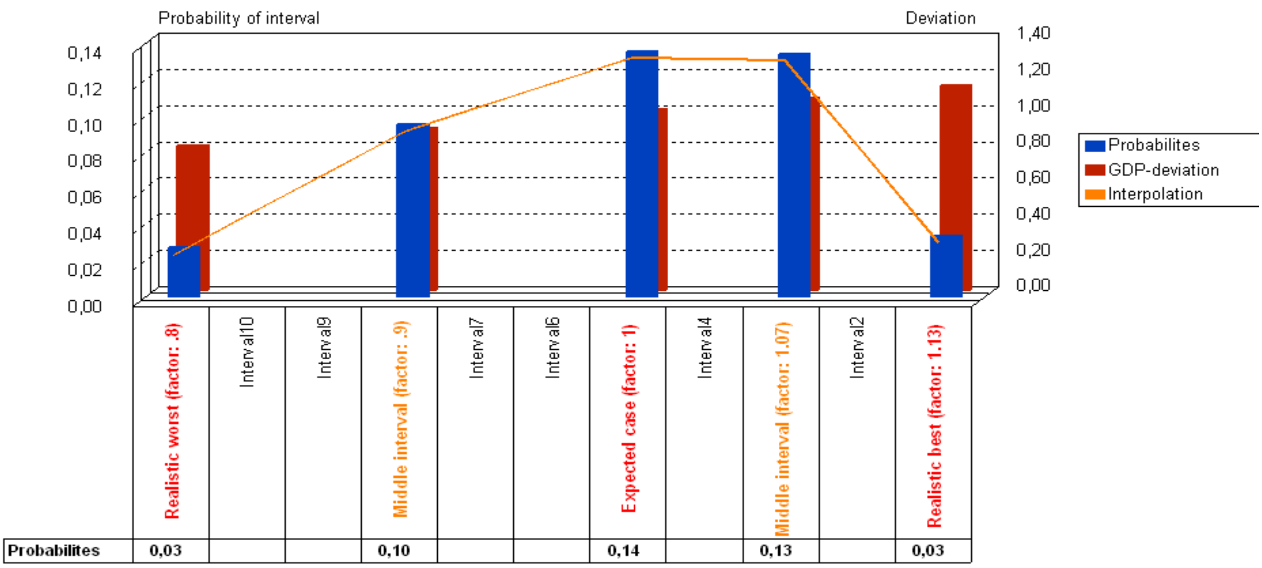


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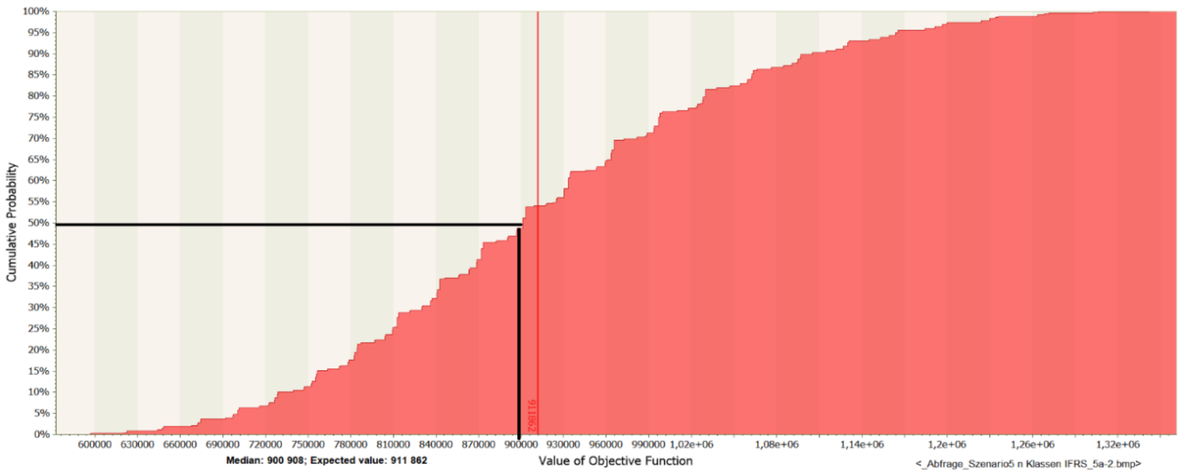
Figure 5. Cumulative distribution function of the joint distribution



Source: Own representation

3.3 Bases for initial assessment and reassessments

Deploying the proposed scenario model allows a profound basis for deciding. If the median (or the expected value) of the target variable meets the required target value then it is "more likely than not" that the leased asset will fulfill the expectations.

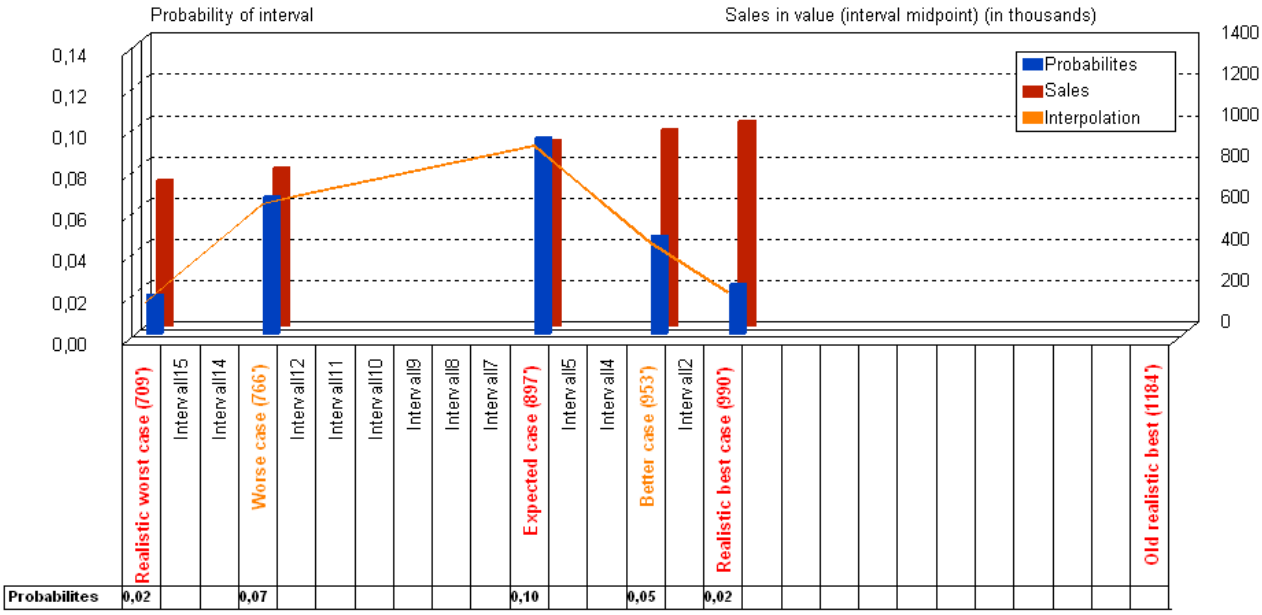
In case of changing circumstances, a scenario model with two factors allows the adaption of the scenarios in four ways. For each factor, variations either in the outcome or in the probability of occurrence might force a decider to reassess the economic usefulness of the asset.

It therefore provides a sound basis for (re-)measuring lease liabilities without contradicting the initial assessment at the commencement date. By referring to the premises of a scenario and then to its deviations caused by unforeseeable circumstances since the moment of contracting, it is possible to disclose a new and deviant assessment, esp. regarding renewing the lease, terminating the lease or purchasing the underlying asset.

For the decision situation described above, now the case is shown that the point estimations for the expected market-driven sales could remain unchanged for the minimum of the target variable's bandwidth (the realistic worst-case scenario) as well as for the expected scenario, but not for the maximum of the target variable's bandwidth (from 120' monetary units to 100'; figure 6). The GDP-driven deviations remained unchanged. For both main factors, the probability ratios would match the new situation. The median changes to 837', the expected value to 837', too (figure 7). This means, the economic usefulness of the asset can be denied.

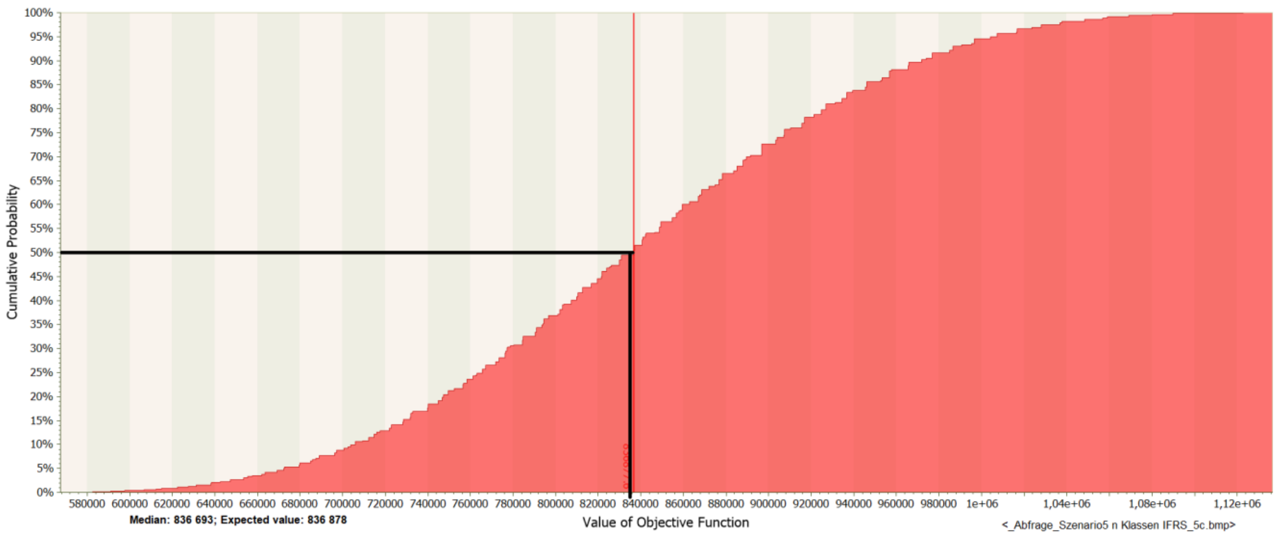
A second case shows the consequences of changes in GDP-driven deviations (figure 8), and the market-driven sales remaining unchanged. The median changes to 841', the expected value to 853' (figure 9). In this case, too, the economic usefulness of the asset can be denied.

Figure 6. New-assessment of the scenarios' probability of occurrence (factor: market-driven sales)



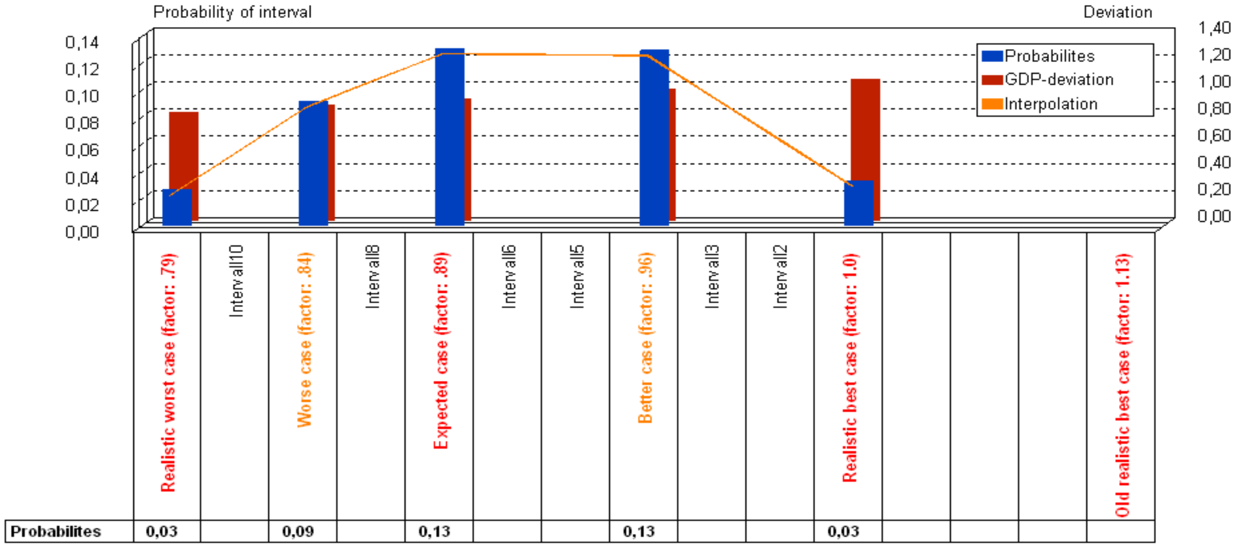
Source: Own representation

Figure 7. Cumulative distribution function of the new assessed joint distribution



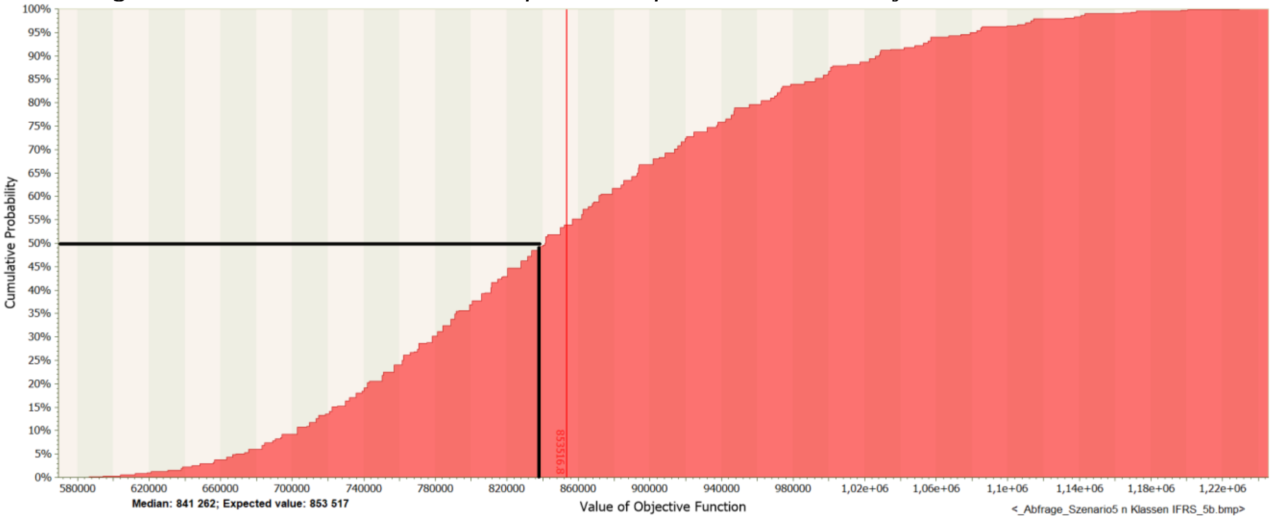
Source: Own representation

Figure 8. New-Assessment of the scenarios' outcomes (factor: GDP-driven deviation)



Source: Own representation

Figure 9. Cumulative distribution function of the new assessed joint distribution



Source: Own representation

4. CONCLUSION

Based on the fundamentals of probabilistic risk management, the authors propose the usage of the median or the expected value as basis for the operationalization of an outcome that is "more likely than not". For more rigorous thresholds such as the "reasonably certain"-criterion, the authors suggest higher confidence levels. Both criteria are common measures in risk management in cases where an outcome is influenced by uncertain events.

If the economic usefulness of an asset is influenced by uncertain events then the methods deployed in risk management suit the situation. Through scenario-creation and applying the relative likelihood technique for eliciting the scenario's probabilities, subject matter experts are able to scrutinize their initial assessment and to give traceable reasons in case of a necessary re-assessment.

The model presented does not need well-developed stochastic competencies because it deploys methods accepted in applied risk management. Further, it allows the integration of objective (e.g. macroeconomic) data besides inherently subjective data (e.g. the competitive situation in a market). Through that, it will help decision-makers to arrive at more reliable considerations and decisions – in comparison to a solely subjective assessment concerning the economic usefulness of an asset.

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SOFTWARE DEVELOPMENT EXPENDITURES: REPORTING DIFFERENCES

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Abstract
This paper presents root-causes for reporting differences in software development (SW) expenditures that result from flexible interpretation of IAS38, and reviews current knowledge on accounting treatment of Research and Development (RD) capitalization. The paper focuses on three determinants for capitalization versus expensing. First, SW development phases are defined in IAS 38 vaguely and there is enough flexibility for companies to "self-select" the treatment to suit rather their budgetary needs than accounting rules. Second, internal labor capitalization plays important role in the SW development process but brings enormous administrative costs to meet IAS requirements for capitalization. Therefore, companies might choose to rather expense these costs. And third, accruals, impairment and new project methods are creating even further discrepancies between the IAS regulation and business reality. The paper analyzes them on the Czech multinational company case study. The paper concludes that balance sheet intangible values for Software assets are far to be comparable across companies.

Keywords: *IAS 38, software capitalization, software development*

1. INTRODUCTION

This paper aims to analyze the implementation of IAS38 on example of software development expenditures for internal use. It demonstrates the root causes for the accounting treatment differences due to the flexible interpretation of the IAS38. The presented case study contributes to the academic disputes on RD expensing versus intangibles' capitalization.

In 2017, the average EU corporate investments into software made up to 9% from all corporate investments and IT spending in average amounts as much as 3% of companies' revenues[1]. The increasing importance of IT spending is nowadays intensified due to Covid19 since the pandemics brings attention to remote working from homes with increased need for the software enabling[2]. The pandemic situation also stresses the need for even larger automation and remote control of production processes with limited interaction of humans. And last, but not least, there is a huge rise of digital content distribution platforms with investments into the overall IT infrastructure and services on both sides – the providers as well as the consumer. The turbulent developments in business practice has its accounting consequences in relation to recognition and measurement of intangible assets under IAS38.

This paper is focusing on the software expenditures accounting treatment and is structured into following chapters: The next Second chapter introduces the regulatory framework and key definitions in the area of software development for internal use and relevant rule IAS 38. The Third chapter is devoted to literature review and investigates the current knowledge on RD capitalization /particularly SW development for internal use/ and presents the current dichotomy of academic works in this area. The Fourth chapter presents authors

[1] IT spending benchmarks 2020–21 (Computer economics Avasant research, 2020)
[2] Above all in the area of collaborative platforms like Google meet, Microsoft teams, Facetime etc.

findings on the root-causes for SW expenditures reporting differences. Author identifies three major expenditures moments when companies may capitalize, or expense SW development, given IAS38 leaves enough room for them to self-select. The Fifth chapter provides case study of a Czech multinational company with real examples and explanation of motives for capitalization versus expensing of SW development. Last chapter Conclusion summarizes all the findings why IAS 38 creates a lot of space for information asymmetry in financial disclosures for Software.

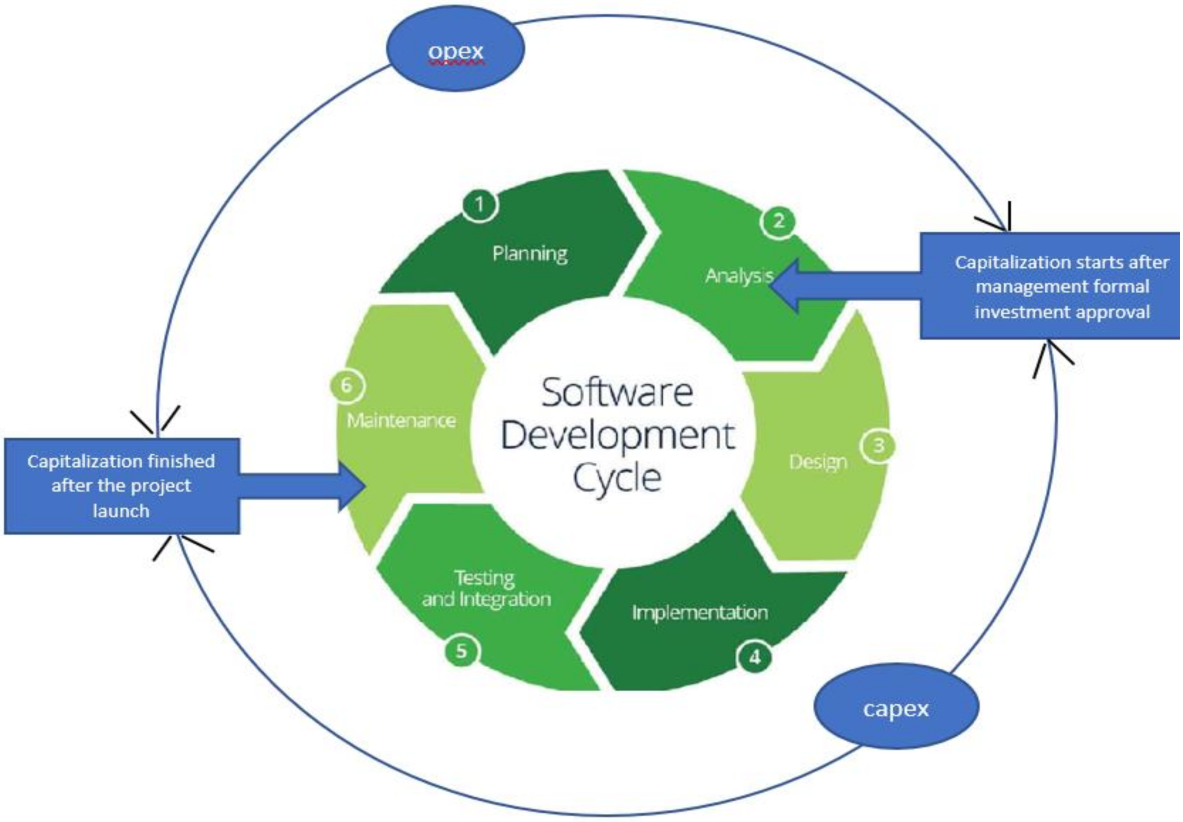
2. LEGAL FRAMEWORK FOR SW DEVELOPMENT

IAS 38 sets up the framework for intangibles accounting treatment. The regulation focuses generally on intangible assets and does not highlight specifics for SW development treatment like US GAAP does[3]. The overall IFRS framework is therefore common for all different types of intangibles although Research and development versus Software development differs significantly from the nature of the matter. This paper focuses solely on accounting treatments of Software development for internal use but quotes the relevant rules of IAS38 for RD where applicable. Therefore, it is crucial to point out, that the Recognition of the intangible asset is the key for capitalization or otherwise, expensing the development costs is required. Based on that statement, companies always need to create, communicate and apply its internal methodologies to assure when and how to measure the costs reliably AND how to confirm future benefit. The moment, a company decides to expense any development, it can present no future benefit of a software[4] OR argue measurement of costs cannot be achieved and is not reliable. In order to explain the software development phases and the effect on accounting treatment, following Figure 1 displays the major milestones that show the timing for the capitalization. Obviously, the start and the finish, is vague and flexible enough for management to decide upon the scale and timing of the capitalization and therefore, critical moments for start and end could be identified subjectively.

[3] Rule based GAAP gives clear instructions for SW industry and enables update of SFAS done precisely for the SW type of expenditures. Versus Principle based IFRS that considers software development process identical to research in pharma industry or any RD intensive sector.

[4] And contrarily, there are even purchased SW that have no positive business case for the company like EET software in the CR but still it could be treated as an asset.

Figure 1. Software development cycle (Accenture, author)



Following Figure 2 presents the criteria for assessing whether an internally generated intangible asset meets the criteria for recognition and in the Case study discussed in detail.

Figure 2. Phases recognition (pkf.com)

Research phase	Development phase
No intangible asset arising from research (or from the research phase of an internal project) shall be recognised. Expenditure on research (or on the research phase of an internal project) shall be recognised as an expense when it is incurred.	An intangible asset arising from development is recognised if, and only if, each of the following can be demonstrated: (a) the technical feasibility of completing the asset; (b) its intention to complete and use or sell the asset; (c) its ability to use or sell the asset; (d) how the asset will generate future economic benefit; (e) the availability of sufficient resources to complete the development ant us or sell the asset; (f) the ability to measure reliably the expenditure incurred on the asset during its development.

This past chapter put software development capitalization into the context of IAS38 and showed how any company should treat the accounting for it. Next chapter further investigates the academic literature to see if there is a concise view on capitalization of intangibles, particularly on software development.

3. LITERATURE REVIEW

Research and Development or intangibles accounting treatment has received quite an attention of academia for some time[5]. Lot of interest is dedicated on the intangibles impact on the value relevance and also differences in RD capitalization treatment between US GAAP and IFRS (Dukes et al., 1980; Lev, 2007; Skinner, 2008; Roehl-Anderson, 2010; Hunter, 2012; Gong, 2016; Corrado et al., 2016; Chen, et al., 2017; Lev, 2019; Vasconcelos et al., 2019; Dinh et al., 2019) and many others. R&D and Intangibles are treated differently in US GAAP and IFRS, but software development capitalization seem to be less controversial given they both mandate capitalization of the relevant development expenditures. Already in 1998, Lev and Aboody wrote an article as a reaction on US SW industry association petition against SFA86 that demanded capitalization of software development and association lobbied for expensing. The article indicated that capitalization related variables are significantly associated with capital markets variables and future earnings and confirmed advantages for capitalization. At the same time, however, they confirmed that SW capitalization is associated with larger errors in analyst forecasts of earnings. This paper was specific for US software industry. The academic dispute if capitalization is value relevant continues across industries and countries further on. Some researches confirm the need for strict capitalization approach (Skinner, 2008), others suggest relaxing the criteria for capitalization by reducing their number (Lev, 2019) or the other extreme justifying expensing (Walker, 2005). The overall agreement however is that further research needs to be done since: *"Research on intangibles is characterized by a large variety of views and interpretations – dominant schools of thought have yet to develop. This situation offers much opportunity for further research in this important field of research"* (Kaufmann & Schneider, 2004) or as Jeny and Moldovan concluded that *"…no robust stream of literature examines the role that R&D capitalizing versus expensing plays in financial analysts' decision making"* (Jeny, & Moldovan, 2020).

Additional stream of research relevant for this paper are works devoted to earnings management in the area of intangibles like work of Kuo, Nan-Ting (Kuo, & Lee, 2018) that managers use the discretion of development cost capitalization to manipulate earnings. There were several other papers addressing this issue in accounting, law or intellectual property journals (Nwogugu, 2015; Dinh et al, 2016) and others. And as further explained in the case study, managers can manipulate the accounting for intangibles also for other reasons than earnings management per se like it was also documented by Anna Bialek-Jaworska (Białek-Jaworska, 2016).

This paper focuses solely on IAS38, above all on the major difficulty in recognition, measurement and reliable reporting of intangibles. Torsten Mindermann and Gerrit Brösel evaluated whether accounting rules for capitalization of intangibles meet the principles of IFRS for usefulness, reliability, comparability, relevancy and general understandability. They conclude that relevance and reliability might be conflicting and that: *Comparability is only warranted if every enterprise interprets the capitalization criteria in the same way. Due to the fact, that there are no rules, how an enterprise shall demonstrate the additional recognition criteria for internally generated intangible assets, it is inevitable that companies proceed in different ways and therefore no comparable information exist. The recognition criterion of technical feasibility is barely illustrated in the specifications of IAS 38 so that the enterprise has the opportunity to base decisions on whether or not a project is technically feasible on its subjective point of view.“* (Mindermann & Brösel, 2009). Or in other words: *"IFRS users do not self-select whether to capitalize or expense development costs; having met the criteria outlined by the standard, an IFRS firm is required to capitalize. This might be seen as a*

[5] Reflecting the increasing share of intangibles versus tangibles in the economy, SP500 reports 80% share of intangibles.

conflicting requirement, because the „SELFSELECTION' is generated by the clear and just identification of the development stages. If they are not evident, user might claim whatever is convenient for them." (Saunder, & Brynjolfsson, 2015). Other authors confirm in their works the problems with reliable measurement of intengibles or particularly with SW development (Walker, 2005; Ameen, & Noll, 1997; Gannon & Parkinson, 1983). And last but not least, the work of Stolowy, who confirms that there is "no conceptual framework commonly accepted and that there is a considerable lack of consistency both inter-country and intra-country" (Stolowy, & Jeny-Cazavan, 2001).

This literature review shows several gaps in the area of SW capitalization and IAS38 rules. First, the major shortcomings of current state of knowledge is the missing empirical research on software capitalization within the IFRS companies and therefore, no academic major stream for recommendations exist (Kaufmann & Schneider, 2004; Mazzi et al, 2019). Second, there are some conflicting conclusions as far as value relevance between capitalized RD versus expensed RD (Chen, et al., 2017; Dinh et al., 2019;, Oswald, & Zarowin, 2007; Cazavan-Jeny, & Jeanjean, 2007). Third, there is a missing empirical research with focus on administrative costs associated with reliable measurement of capitalization and therefore, potential resistance for some companies to capitalize (Oswald, & Zarowin, 2007; Kuo, & Lee, 2018). Fourth, more work should be dedicated to the software development process with its critical milestones for capitalization in order to identify differences and suggest the way for possible reporting comparability. This paper offers some empirical findings to add to the current knowledge.

4. SW EXPENDITURE REPORTING DIFFERENCES ROOT-CAUSE

This chapter confirms the previous academic findings that interpretation of IAS38 is not analyzed by empirical evidences enough. As Anne Jeny wrote: "There is little robust evidence on the determinants of the capitalization decision and the characteristics of capitalizers. We conclude by highlighting future research that can allow accounting academics to contribute to standard setting (Jeny, & Moldovan, 2020). In order to address this issue, this Fourth chapter gives the empirical evidence of 3 determinants for capitalization of SW development and the case study in chapter 5 further expands it.

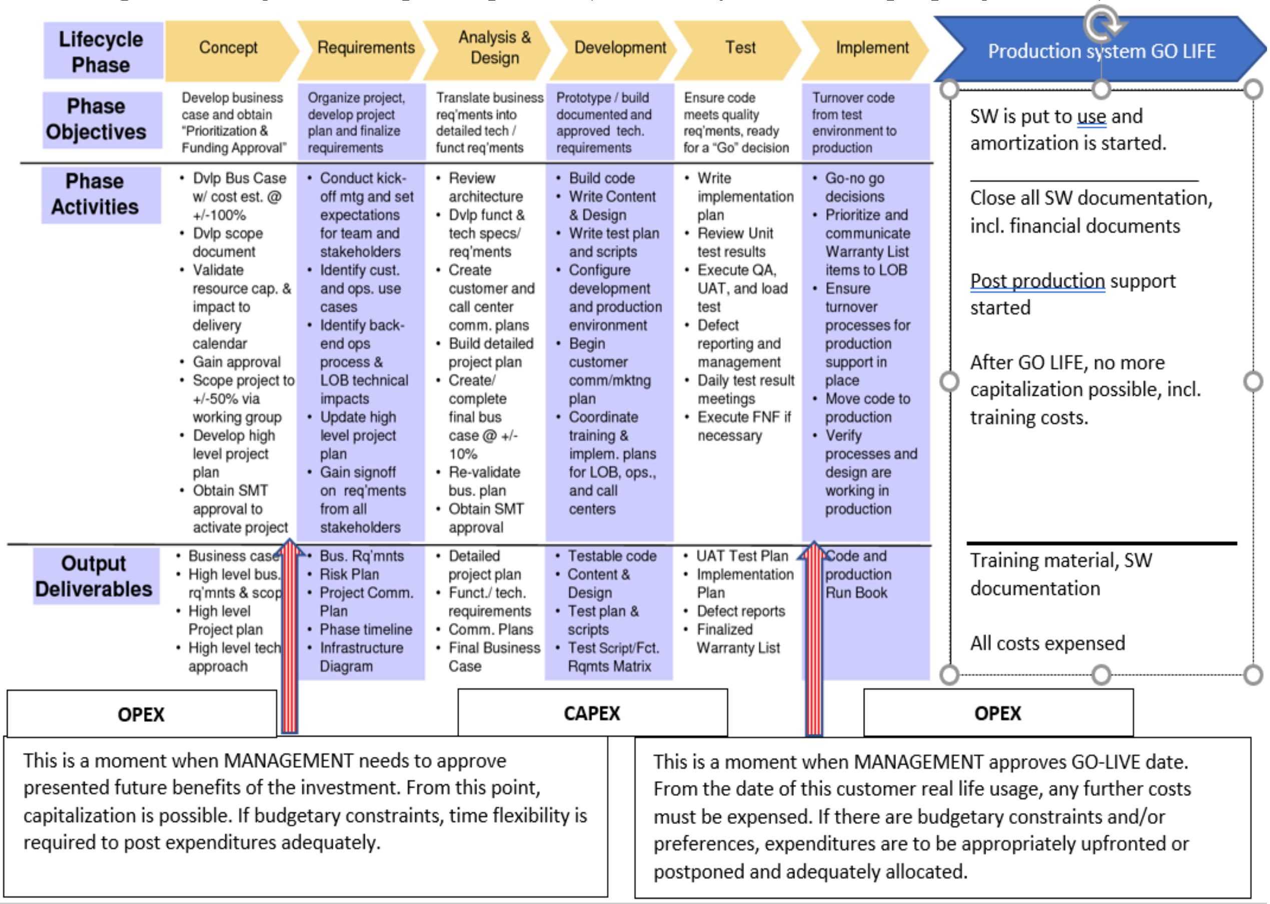
SW development phases recognition

Companies naturally fulfill all the requirements given by IFRS, including IAS 38 rules for capitalization However, it leaves them enough flexibility to suit rather their budgetary constraints than the vaguely defined standards. In this paper, corporate terminology CAPEX and OPEX is widely used. CAPEX is understood to be capital expenditures and OPEX are operating expenses. Also, they have a budgetary point of view – separate budget exist for overall capital expenditures and the expenditures from this budget are decided on top management board level during prioritization meetings. On the departmental/cost center level there is an operational OPEX budget.

Generally, projects for SW development were predominantly run via so called Waterfall development approach that is an understandable methodology for Finance due to its clear phase separations[6]. This methodology is suitable for large SW implementations with clearly defined milestones and launch date. Following picture explains in Figure 3 Typical Waterfall SW development phases and what implications there are for Finance.

[6] Separate research needs to be done on Agile approach and other new popular project methodologies. Current popularity in Agile approach with so called Sprint releases creates challenges for Finance given the speed of switching between iteration of analysis and release is very fast.

Figure 3. Project development phases (Journal of intellectual property, author)



IAS mandates that the research phase is to be expensed. Research phase can be called also an Idea Phase or Feasibility study, or Concept phase or sometimes, Analysis phase. There are many different methodologies and various names for the period when a company needs to evaluate if it is worth investing money into a new software solution or upgrading the current one, including return of this investment. In the Research preparation phase (expensing one) several steps need to be analyzed (e.g. confirm available resources to deliver the SW change, whether the solution provider is a good partner to support the solution or the company must get its own resources to maintain it after the launch, if it fits into the overall IT architecture and what is the strategic intent with the new SW solution for customers, employees or vendors etc.). The extent of the work done during this stage varies company to company, but also, project to project within one company. Also, this analytical type of work uses operational budget. The milestone between expensing the work versus capitalizing is very fragile and the critical moments are shown in Figure 3.

If analysis-concept-idea is processed and prepared, it needs to go through a management board and ideally, be prioritized through upfront prioritization criteria. Ideally, management's clear and fair valuation process selects the most effective investment idea from all presented[7]. Management usually decides based on the return on investment stated by the financial partner-controller in the Business case. However, as mentioned already, the management can select to proceed with certain investment for many reasons, not only the financial ROI reasons. It could be the strategic competitiveness, timeline of the investment, limited budget in CAPEX versus OPEX, limited human resources needed to deliver the investment etc. However, the moment

[7] Management evaluates also mandatory SW upgrades, or regulatory Software implementations or strategic SW investment with lower ROI and investment approval criteria are therefore difficult to unify.

management board decides to let the investment go ahead, from that moment a very large administration starts to roll on in order to prove, administer, document and report all expenditures according to the requirements set in IAS38. Starting from the day of the approval, all development expenditures are classified as CAPEX (capital expenditure). Similar situation happens after the development is finalized and the SW is launched for commercial use /internal use/. From the date of the launch, all expenditures are treated as OPEX again incl. user trainings and SW maintenance.

The argument however in this paper states, that there are many internal reasons for managing and manicuring the administration of SW development phases. Major work of Bialek-Jaworska confirms that "Managers presumably engage in this form of real earnings management because a reduction in R&D spending will cause a dollar-for-dollar increase in pretax income, with R&D capitalization appearing to mitigate such behavior (Oswald & Zarowin, 2007). Conversely, the capitalization of R&D expenditures can lead to overinvestment in continuing projects and could destroy firm value to the extent that superior alternative projects are foregone (Entwistle, 1999; Hatfield, 2002; Białek-Jaworska, 2016).

This paper adds additional point of view on self-selection of capitalization vs expensing. One of the reasons to pull or push the spending among the stages are limits in CAPEX and OPEX budgets. The case study explains that root cause in the case study. The logic is that if CAPEX budget presented in the business case allows, there is a tendency to post expenditures as development. If there is priority for expensing development intended to be capitalized, the project team might qualify it as an expense of idea phase. Since no reclassification into CAPEX later is possible, the usual approach is to classify as soon as possible to CAPEX. Overall, since there are different budget "envelopes" separate for OPEX and CAPEX, the project team would always try to precisely fit the financing source[8]. Another critical project stage that defines if expenditures are to be capital or expensed, is the launch date. After the launch of the new SW functionalities, all costs are to be expensed. However, the mitigation among the life date stages could be also a matter of flexibility given not all projects are to be easily determined for exact date. And last, but not least, migration costs and training costs are to be posted into operational expenses of departments that might have no budget for that and therefore, require these costs to hit the projects CAPEX[9].

This chapter showed that SW development stages have enough flexibility for manipulation among CAPEX and OPEX and therefore a company can manage the expenditures according to their own needs. Since project manager is responsible for meeting the approved budgets as close as possible, there is enough maneuvering space to take advantage of IAS flexibility. Further in the chapter dedicated to the case study Czech company, the real examples are described even in more detail.

Internal labor capitalization

In this chapter, internal labor capitalization process is described. It is going to show why companies would decide for capitalization of the labor development costs or rather expense it and therefore, report very different numbers in intangibles software line item. These differences would exist among companies, but also sometimes even among projects within one company. The reason is that the method of calculating the capitalizable labor costs is not determined by

[8] Example of expenditures are vendor invoices split to idea phase resp. delivery phase with suitable and advantageous proportion. Also, internal labor capitalization could be adjusted accordingly. The posting of Goods receipt is the critical date and amount since GR is the prerequisite for invoice posting. Therefore, it is the GR date and amount that determinates the amount spent in the period for either CAPEX or OPEX.

[9] Finance operations are never part of the negotiations with vendors. Sourcing is responsible for vendor management and delivery terms but IT manager or project manager is responsible for the budget and therefore, discusses the description of the invoiced work directly with vendor.

IAS in detail, therefore companies might have very different calculation scheme and capitalized numbers would vary significantly. Least but not last reason is the administrative costs related to the internal labor tracking and associated with audit fees (Kuo, & Lee, 2018).

Internally generated Software is usually measured at costs. The definition of the internally generated software development costs however is extremely flexible to determine. If a company decides to capitalize labor costs, the major challenge is to measure these costs reliably. Big companies with sophisticated IT architecture or generally, IT intensive industries, usually have a large IT team to enhance, improve and develop IT architecture, including managing upgrades, replacement or technical enhancements. Also, these companies usually have a well-trained project management team that is responsible for delivering the investment projects. And not last, they possess well trained finance team to support all these processes. All these costs are entitled to be capitalizable if properly tracked and in an appropriate project phase. The tracking and administrative maintenance of these labor expenses are enormously demanding on the administration in Controlling. That means that each employee/contractor tracks its working hours to projects and monthly, these labor costs are capitalized. Each month, during the month end closing, all the time-sheets of IT development team, project team and other external IT contractors, are collected and appropriate value of the labor costs are posted on the project resp. to assets under construction[10]. When there is a launch of a project, the critical launch date also determines when time-sheeted hours are to be expensed or until what date the time-sheeted hours still are capitalized. No wander, many companies decide not to include internal labor into the value of the Asset /SW/. Too much administration is required to do so, and if the company has enough space in their OPEX budget, it will not acknowledge the costs of labor into the value of the assets but rather expense them.

In this chapter, the capitalization of internal work was described so to demonstrate that capitalization of internal work expenditures usually is driven not by IAS, but rather the ability of the organization to administer quite complex issues of tracking the labor costs according to the IAS requirements. It supports the argument on increased administration costs if company decides to capitalize SW development including internal labor. It also confirms the conclusion on positive association between capitalized development costs and audit fees (Kuo, & Lee, 2018). And even if a company is capable to do so, it may decide the process is too expensive and not worth spending the time and money on. More examples and explanatory details for the complexity is to be found in the chapter with case study.

Accruals of unfinished SW

This paper also wishes to point another aspect of flexibility in capitalization on treatment of accruals that deal with unfinished SW developments recognition at the fiscal year end. It is when all undergoing work on SW is evaluated and the work done needs to be acknowledged. This time the decision on how much work is done, depends on the project manager professional estimate. The primer goal of every project manager is to fit his/her budget for the project and the fiscal year split between OPEX and CAPEX. Therefore, project managers would balance the spending on CAPEX or OPEX based on the project budget plan and adjust the estimation for work done accordingly. Naturally, his/her estimate must go hand in hand with the real work done, but given development phase might be long and complex, there is always room for the relevant work stage to be estimated flexibly. Therefore, accruals at the fiscal year and unfinished SW development postings create discrepancies on the balance sheet. Illustrative example is given in the case study chapter.

[10] Different method of calculating FullTimeEquivalent costs are used and not all personal cost is allowed to be capitalized. Generally, FTE costs are calculated for one Cost center and average FTE cost is applied. If there is contractor with a fixed manday rate, this rate is applied. The principle of the calculation is audited and recalculated every fiscal year.

Additional possible reporting differences on capitalization

There are many other possible differences in reporting capitalization of SW. The most common one for modern agile companies are the preference for expensing because smaller companies would otherwise face the huge administrative costs related to the reliable tracking of the expenditures and prove for future economic benefit. Naturally, if a company needs to report to the investors openly the current state of its intangibles, one could expect that they choose to capitalize. That is not however the case for many startup companies seeking external investors. These small companies rather spend time on explaining their ideas and business plans to investors directly and limit their overhead on implementing sophisticated Asset management financial module and project management to track all IAS requirements for capitalization. Another huge differences among capitalizing expenditures are on developments on software as a service and royalties. Also, accounting treatment approach what and if to capitalize in case of cloud services. And last, but not least, companies treat very differently also software impairment[11] and reporting the nature of the impairment (Białek-Jaworska, 2016). These mentioned areas are too large to discuss in this paper.

5. CASE STUDY

In this chapter, case study of a large Czech company with international ownership structure is presented. It would demonstrate the local use of global rules and show the real nature of the numbers for SW development accounting treatment. Time period described in this Case study are years 2013–2016. The case study supports the overall academic discussion about the difficulty to recognize, measure and reliably report SW development expenditures so that financial reporting is comparable.

Given software development is a complicated technical discipline, usually finance is not eager to understand the details of it. At the same time however, Finance is responsible to correctly treat SW in accounting and control and report expenditures related to this corporate activity and IT managers need to be able to explain the process of their work clearly back to Finance. Therefore, IT and Finance need to find a common language to agree how to treat all IT expenditures reliably.

The presented case study company appointed to the role of Finance partner[12] four Controlling employees with technical as well as finance background in order to assure IFRS proper accounting treatment. These IT Finance partners worked closely with Finance operations as well as IT managers. Their responsibility was to submit IT budget and maintain it, control the expenditures and assure their proper postings, and provide regular reports on CAPEX and OPEX budget vs actual spending differences with explanation[13].

Case study: SW development phases recognition

The presented Case study company has a large apparatus for investment project's evaluations with detailed business case methodology. All investments have business case prepared and are presented to the management board for approval. All projects expenditures needed be classified separately for CAPEX or OPEX and forecasted for 5 years future period. Also, all resources

[11] IAS36 issued and updated throughout the 2004/2008 are still challenging in practice see https://www.grantthornton.global/globalassets/1.-member-firms/global/insights/article-pdfs/2014/ias36-impairment-of-assets-a-guide-to-applying-ias36-in-practice.pdf

[12] These 4 employees were appointed to work with following IT departments: IT operations and security, Systems development, Project management and capitalization, and fourth person for finances of Technical network. This small group had also its chief person that was responsible directly to the Finance director.

[13] Apart from the Finance partnering tasks and given their combined Finance/technical background, they were usually part of the different Finance upgrade projects like SAP, SOX, EET etc.

were allocated for the whole duration of the project and agreed upon upfront with all relevant departments /project office, IT and business owner/. Finance partner was fully responsible for the quoted return on investment and correct budgetary allocations.[14]

Many employees spent lot of time preparing the business case in the idea-research phase. These expenditures were posted into payroll/opex of the relevant departments, incl consultancy work. That was usually very sensitive, because there was limited budget in OPEX for this type of work. Therefore, the consultant/employee usually did not claim work done on the research phase and would charge the company only after the investment was approved and the work could be capitalized. If there was no approval, that consultant/employee might charge his work to different similar project that is already approved. Another example was when the investment approval took a long time, but the approval was expected. Usually, the IT team already started their work on the development phase but because the project was not approved yet, the team could not claim the expenditures into CAPEX although the nature of the work according to IAS 38 was fully capitalizable. But the requirement for the CAPEX recognition was not fulfilled due to missing valid investment decision. Like in the previous example, such opex expense was very undesirable and manipulating the timing of such expenses until the official investment approval time were quite usual. Another example was a vendor invoice for final delivery phase. It was a moment when prototype of the solution was ready for testing and training of end users[15]. Training expenses are not allowed to be capitalized, therefore if pressure on OPEX exist, the vendor invoice would not include in the text any information about training services. It would only mention professional services for Delivery Phase II., possibly indicating number of hours-days with ManDay rate price.

Budgetary constraints were in the Case study company major reason for manipulating the treatment of expenditure and the budget value was the determinant for capitalization or expensing[16].

Case study: Internal labor capitalization

The case study company had tight budget on payroll costs. Time to time, there were also pressures for laying off employees and downsizing. Every year, many departments had to justify number of employees. The solution for overcoming such situation was to offset the increasing load of work by capitalization of project payroll costs since such costs can be deducted from the opex and become part of the intangible asset price. Therefore, all internal labor connected to the system development that are capitalizable, were trading off the opex budget challenges. In our case study company, around 50 employees, consultants and contractors had to fill up their hours spent on SW development projects and identify the type of work done, so that the expenditures on approved investments projects could be capitalized. All the employees usually worked on 3–5 projects in average and submitted timesheets had to be properly controlled and posted to the right projects and assets under construction. The milestones of each project had to be checked against its Launch date to avoid errors in classification for capitalization versus expensing. Consultants' and contractors' work was capitalized based on their manday rate[17]. Employees average personal costs were calculated for the appropriate Cost center/department and this average cost was capitalized. Every year,

[14] Projects that are obligatory by regulations, upgrades due to expiration of support or other mandatory projects that however lack revenues are presented only with the expenditure side, without revenues. Limited budget for such projects is set up every year.
[15] Super user is a company employee/contractor who would be training how to use the new software/modified software to other people. End User is the employee/contractor who is working with the SW on a daily basis.
[16] Project OPEX budget was difficult to prepare because OPEX budget was distributed to cost center while capex is company-wide and managed centrally. Case study company did not have a methodology how to assign and distribute OPEX project budgets and mechanism to control it.
[17] Tariff of a person for a day work.

finance operations recalculated these costs and auditors were to approve the calculation mechanism and confirm which payroll and other personal costs can be included into the average. Following is an example of such timesheet of an employee for system development works – example is for January 2014:

Figure 4. Timesheet (author)

Name Employee/Consultant	**XY**	Period	**01/2014**			
		Hours worked in period				
Project number	Project name	1.–7.1.	8.–15.1.	16.–23.1.	24.–31.1.	Total for 01 2014
2014001	Web self care		20			20
2014005	SAP HANA upgrade		10	20	5	35
20130068	Business combination integration	10			30	40
20130001	Microsoft upgrade			20	5	25
	Holidays	30	10			40
TOTAL		40	40	40	40	160

The example obviously gives a picture that internal labor capitalization is quite costly procedure in order to fulfill the IAS requirements for labor capitalization. When management was asked if these administrative costs justify the benefits from capitalization, no one was able to answer clearly. General comment was that it was always done like that, financial apparatus is in place so why to change anything but above all, the opex challenge is solved by capitalization of the work done – therefore opex payroll budget is met without laying off people. Companies, where similar administrative costs would not be acceptable, would very probably choose to expense such development costs[18].

This example demonstrates the flexibility of companies to choose expensing internal labor development costs if administration of the labor work is too costly. Or visa-versa, company can choose capitalization of internal labor if reliable reporting and proven allocation to the development tasks is worth the administrative effort.

Case study: Accruals

With fiscal year end, all unfinished work needs to be classified and estimated for work done so that accruals on Assets under construction can be posted[19]. In order to get such number for each project and asset, project manager would estimate work done and fills up the Accrual protocol referencing Order to a vendor. That is the base for the finance operations to post accruals. With fiscal year end procedures, project manager wishes to report precisely budget indicated in the business case for that fiscal year. Therefore, he-she manicures the accrual estimate in order to fit the numbers in the approved business case. If however, there is a room in the CAPEX budget

[18] Non-IT intensive companies generally do not capitalize the internal work on SW. They do not have their own large SW development teams or establishing the procedures to do so is not acceptable nor a strategic priority. Also, Small and medium enterprises in IT sector (SME) probably expense internal labor costs for the same reason.

[19] If project is launched, assets are activated for depreciation but that does not happen at the fiscal year end but randomly given projects are very often lasting longer than a fiscal year and therefore, the fiscal year end closing is for investment projects important milestone from the administration point of view.

in the company/department, project manager is asked to make a higher estimate and for that higher accrual, he gets premium treatment in the next fiscal year where there is a buffer since spending was "pull forwarded" into the previous fiscal year. Overall project spending naturally is not to be exceeded in any case. But Accruals were made based on mutually advantageous method regardless of accounting rules and guidelines. The most important were the budgetary constraints of the whole company and individual prestige of the project manager to fit his project budget. The example of accruals again highlights the flexibility in reporting unfinished intangibles into the balance sheet and related reporting inter as well as intra-company reporting differences[20].

6. CONCLUSION

Accounting treatment of software development according to IAS38 leaves enough room to treat the complex process very differently company to company, or even project to project. This paper added some more empirical findings for the current state of knowledge. Case study showed 3 major reasons for managers to self-select capitalization or expensing: First, capitalization of SW development is determined by the phase of the development project but the phase Start-date or End-date is vaguely defined. Therefore, it is up to the management to accommodate rather their budgetary constraints than follow the accounting standard. Second, IAS mandates to capitalize internal development labor costs if other criteria are met. The tracking of such expenditures is extremely costly and therefore, many companies decide to rather expense. And finally, accruals, impairment and popular new software development methods are near to impossible to meet IAS requirements for phase identifications, project and asset management. This paper wishes to add to the empirical research and help to find recommendations for regulators in the area of software development accounting treatment and reporting.

7. GLOSSARY

Software /SW/	Intangible asset either purchased or generated internally. License for the purchased software entitles the company to use it, if generated internally, inventory list is created. It is always amortized.
Research phase	A project time period that can be called also an Idea Phase or Feasibility study, or Concept phase or sometimes, could be called Analysis phase. It is a phase when it is not clear if the planned project is an investment with future benefits or just an operational project with no tangible/intangible asset after the launch.
Launch date	The date from which commercial or internal use is started and software starts to be depreciated/amortized.
Posting	Accounting action into the ledger
Asset under construction	Intangible under development that received capital budget funding and was approved by management board. When the asset is ready for use, it is classified as an Asset and depreciation starts.

[20] Other root-causes like impairment is not covered in the case study due to unwillingness of the finance department to share the insights.

Accrual	Posting of a line item that is still to come but because of the month end/year end procedures, this expected item is accrued and posted already given the factual fulfillment was done. Invoice or payment is to be processed in the future period.
Project team	Team consisting of IT, business owners, testers, project office manager etc.
Phase	Stage of a project
OPEX	Operating expense, operating budget
CAPEX	Capital expenditure, capital expenditure budget

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ANALYSIS OF THE STATEMENT OF CHANGES IN EQUITY AS A PART OF THE FINANCIAL STATEMENTS PREPARED IN ACCORDANCE WITH IFRS IN AUTOMOBILE INDUSTRY COMPANIES IN THE SR

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Abstract
In the process of harmonization, IFRS, which can be considered a form of a transnational accounting adjustment, comes to the fore. The financial statements prepared in accordance with IFRS are rare in the Slovak Republic, but refer to large companies, therefore they are important for Slovak economy. The aim of the paper is a quantitative empirical research conducted on a complete set of financial statements prepared in accordance with IFRS for 2018 with a focus on analyzing the statement of changes in equity of companies that prepare financial statements in accordance with IFRS, operating in the Slovak Republic in 3 segments of industry focused on intermediate production of motor vehicles, with the dominant impact in GDP growth in Slovakia. Through the fundamental financial analysis, the presentation of information on equity in the statement of changes in equity of 13 companies classified according to SK NACE is evaluated and statistical methods such as median and correlation analysis are used for the evaluation. Using correlation analysis, we examine the relationship between profit or loss for the period and other equity items separately. Namely the Pearson correlation coefficient was used, based on which we found a strong linear relationship between profit or loss for the accounting period and individual equity items, specifically between the share capital, the statutory reserve fund, the dividends paid and the profit or loss of previous years. The highest correlation was found between the profit for the accounting period and the statutory reserve fund.

Keywords: *IFRS, conceptual framework, statement of changes in equity, financial statement*

1. INTRODUCTION

The purpose of harmonizing accounting in the countries of the European Union was to define the content and tasks of accounting in a market economy, to determine the subject, goal and functions of accounting in the community of European Union countries and to establish valuation principles for reporting purposes. International accounting standards (IAS / IFRS), which is one of the forms of a transnational accounting regulation, whose purpose is to ensure the comparability of financial statements prepared in individual countries of the world, are at the forefront of the harmonization process. Other standards include US GAAP, which focuses on what information should be reported and what its content should be (Hercegová, 2007, p. 231).

There are a lot of researches on the adoption of IFRS at European level, applied differently depending on the economic, social and cultural aspects that manifest themselves at the level of each country (MacGregor Pelikánová & MacGregor, 2019). One of these studies was focused on investors' reactions to the adoption of IFRS at the European level, according to which the introduction of IFRS will increase the quality of accounting information, reduce information asymmetries, capital costs and the like (Armstrong et al., 2010, p. 32). Another of the researches focused on the quality of information before and after the implementation of IFRS, where the author concluded that the implementation of IFRS significantly improved the relevance of accounting information (Karğın, 2013, p. 78).

According to the other studies, IFRS improves several aspects of financial reporting, the information environment and capital markets. Empirical studies have shown that after the adoption of IFRS, the value of revenue relevance has increased (Barth et al., 2008, p. 488; Gebhardt & Novotny-Farkas, 2011, p. 305), the quality of information environment has increased (Byard et al., 2011, p. 70; Chen et al., 2013, p. 100; Yip & Young, 2012, p. 1785), security trading has improved (Daske et al., 2008, p. 1130; DeFond et al., 2011, p. 245; Florou & Pope, 2012, p. 2000), as well as the valuation of equity has improved (Li, 2010, p. 610).

With the expansion of capital markets and the development of multinational companies, the need to provide comprehensive and comparable accounting information is increasingly reflected in the widespread application of high quality global accounting standards accepted by national standards institutions (Turečková & Nevima, 2020). Internationally, financial reporting is one of the areas most covered by rules issued by international institutions, the most important being International Financial Reporting Standards (IFRS), US Generally Accepted Accounting Principles (US GAAP), but also European directives (Istrate & Ionescu, 2019, p. 247).

The general trend towards digitization should provide accounting systems that have the capacity and ability to improve presentation at low cost (Bhimani & Willcocks, 2014, p. 470; Kulikova & Mukhametzyanov, 2019, p. 1127). At the same time, properly set up digitization can ensure the filtering of the necessary information depending on the needs for flexible user decisions. On the other hand, it is possible to use this potential only after understanding all the contexts that the individual components of the financial statements provide. Therefore, in this paper we will focus on equity and especially the least analyzed part of the financial statements, namely the statement of changes in equity according to IFRS. Due to the importance of the automobile industry in the Slovak Republic, we will perform an analysis of statements of changes in equity in companies operating in the Slovak Republic in the automobile industry at various intermediate stages of production.

2. FINANCIAL STATEMENTS ACCORDING TO IFRS

Financial statements are a structured presentation of facts that are the subject of accounting, provided to persons who use this information (Act No. 431/2002 Coll. On accounting, as amended, section 17(1)). The aim of financial statements is to provide information about the financial position, profitability and cash flows of an entity that is important and useful to users in making their economic decisions.

The aim of financial statements is to present financial information. The benefits of financial information depend to a large extent on a clear and concise presentation of basic economic information, which should be comprehensible and comparable. Comparability enables faster processing of information and understanding of similarities or differences in financial statements, and also eliminates costs and errors related to the processing of information by different users. The higher the comparability of accounting information, the better it is understood by users.

The paradox is that IFRS, on the one hand, carefully guide the recognition and measurement of individual items in accounting as well as other disclosures, but on the other hand, they pay much less attention to how these items should be presented in the financial statements. The usefulness of financial information does not depend only on the quality of reporting and valuation of accounting items, but mainly on their classification and presentation (Baksaas & Stenheim, 2019, p. 2).

The starting point for the preparation of financial statements in accordance with IFRS is a conceptual framework that defines two basic assumptions for the preparation of financial statements. The first assumption is to prepare the financial statements on an accrual basis, which means that the accounting reflects the consequences of all business transactions at the time of their occurrence, ie not when the receivable is collected or the liability related to these transactions is settled. The accrual principle is based on strict reporting of revenues and also on the principle of matching costs to revenues. The second assumption in preparing the financial statements is the continuation of the company in its operations. In order for the information disclosed in the financial statements to be useful to users, it must meet qualitative characteristics, namely: clarity, relevance, reliability and comparability.

The purpose of the conceptual framework is to establish a coherent system of interrelated objectives and concepts for the consistent recognition and measurement of the elements of financial statements and their disclosure, and are expected to assist in deciding what to account for, which measurement to select and how to communicate this information to users. Without the support of the conceptual framework, items could be reconciled in accounting and reporting, especially if the relevant standard does not provide an accurate and detailed statement of the issue.

The basic components of the financial statements include assets, liabilities, equity, costs and revenues (Table 1). In order for a particular item to be considered an element of financial statements, it must meet the definition of the relevant element of the financial statements, be measurable, relevant and reliable. In order to report an item that meets the criteria of a basic element in the financial statements, it is necessary to meet another criterion, namely the reporting criteria. In general, the recognition criteria for a particular item are met when it is probable that any future economic benefits associated with the item will flow to or from the entity and the item can be measured reliably. If the item does not meet the above criteria, it is reported in the notes to the financial statements.

Table 1. Definitions of basic terms according to the conceptual framework of IFRS

Item of financial statement	Definition according to the conceptual framework
Assets	the current economic resource that results from past events and is controlled by the company
Economic resource	law that has the ability to generate economic benefits
Liabilities	the company's present obligation to transfer economic resources as a result of past events
Equity	represents the residual in the assets of the entity after deducting all its liabilities
Costs	a reduction in assets or an increase in liabilities that results in a decrease in equity other than related to the distribution of profits among the owners of the company
Revenues	an increase in assets or a decrease in liabilities that results in an increade in equity other than an increase in the form of contributions from the owners of the company

Source: own processing according to the conceptual framework of IFRS

The preparation of financial statements in accordance with IFRS is based on IAS 1 – Presentation of Financial Statements, the aim of which is to prescribe the basis for the presentation of regular financial statements so that comparability with financial statements of previous periods and also financial statements of other company can be determined. To achieve this objective, the standard sets out general presentation requirements, structure guidance and minimum requirements for the content of financial statements. According to this standard, the separate financial statements consist of a statement of financial position, a statement of profit or loss and other comprehensive income, a statement of changes in equity, a stamement of cash flows and notes. The structure of these statements is not detailed, which means that the way of presentation of financial information is at the discretion of companies. Information about equity, respectively its individual items are presented in all parts of the financial statements, while IFRS defines equity as the residual interest in the assets of the company after deducting all its liabilities.

IFRS provides flexibility in compiling the balance sheet, which is reflected in the fact that it is not a binding form of the balance sheet, but only a list of significant and important items for achieving a true presentation of facts. From the point of view of equity, IAS 1.54 requires the disclosure in the balance sheet of information about share capital and reserves. Companies also present other line items in the balance sheet in accordance with IAS 1.55, if it is possible to understand the financial situation of the company through these items. In order to maintain the balance sheet equation, the line item Retained earnings / Unpaid loss is also included in the balance sheet.

The statement of profit or loss provides information about the profit or loss for the period, the structure of the company's activities and information that is relevant in deciding the company's performance and income. Profit or loss is calculated as the difference between revenues and costs without components of other comprehensive income. Other comprehensive income includes components of revenues and costs that include reclassification adjustments that are not recognized in the statement of profit or loss as required or permitted by other IFRS. Total comprehensive income (1) represents the change in equity during the period that results from transactions and other events, with the exception of changes resulting from transactions with owners as owners (IAS 1.7).

$$\text{Comprehensive result for the period} = \text{Profit or loss} + \text{Other comprehensive income} \quad (1)$$

The statement of profit or loss and other comprehensive income may be prepared as a single statement, where part of profit or loss is separated from that for other items of comprehensive income. The profit and loss account and other components of the comprehensive income may also be disclosed in two consecutive statements, one as a statement of profit or loss and the other as a statement of profit or loss and other comprehensive income.

A separate standard IAS 7 – Statement of Cash Flows is devoted to the statement of cash flows. According to this standard, cash flows causing changes in the amount and structure of equity are presented in the statement of cash flows as cash flows from financing activities. The usefulness of this information can be seen in anticipating claims for future cash flows by those who provide equity to the company (IAS 7.17). The statement of cash flows presents information about the sources of cash and cash equivalents and their use in specific activities of the company.

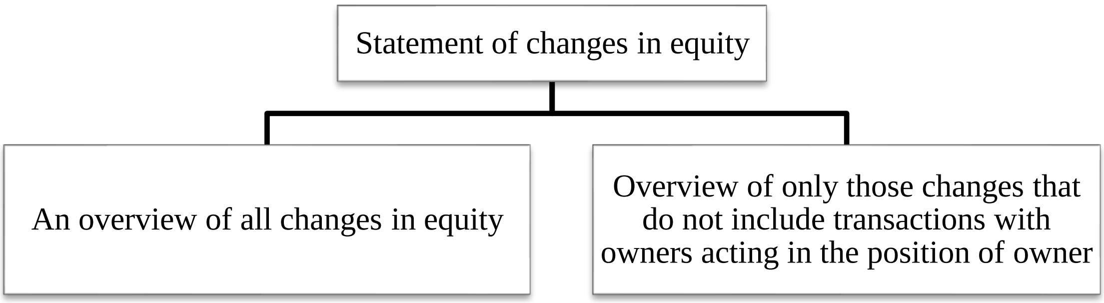
The statement of changes in equity shows the movements of individual items of equity in the company. The structure of the statement of changes in equity is partly similar to the cash flow statement and partly to the statement of profit or loss. The statement of changes in equity compares two periods, so it is possible to determine the opening balance and the final balance of individual items of equity (Pierson, 2020, p. 7). The statement of changes in equity can be prepared in duplicate in accordance with IAS 1 (Figure 1).

In accordance with IAS 1.106 the statement of changes in equity presents:

- the total comprehensive income for the period,

- the effects of retrospective application or retrospective accounting in accordance with IAS 8, accounting policies, changes in accounting estimates and errors, for each item of equity,
- for each component of equity, a comparison of the carrying amount at the beginning and end of the reporting period, with separate disclosure of each change arising from profit or loss, from each item in other comprehensive income and from transactions with owners (separately settled by owners, distribution to owners and changes in ownership interests).

Figure 1. Forms of the statement of changes in equity in accordance with IAS 1



Source: IAS 1

A change in equity means an increase or decrease in net assets. Changes in equity are due on the one hand to revenues and costs recognized in profit or loss, on the other hand to revenues and expenses affecting equity (due to revaluation) and, last but not least, transactions with owners. If we abstracted from the effect of transactions with owners representing deposits and withdrawals, then the total change in equity during the period would be the sum of income and expenses (costs minus) including other income – profits and other expenses – losses generated by the company's activities in the accounting period (Šlosárová, 2018, p. 105).

In the notes, companies disclose information and explanations about individual items of the financial statements. According to IAS 1, the notes are intended to provide users information (IAS 1.112):

- the basis on which the financial statements were prepared and information about the accounting policies used,
- required by individual IFRS that cannot be disclosed elsewhere in the financial statements,
- not disclosed in other parts of financial statements, but are relevant to providing a true and fair view of the facts.

3. DATA AND METHODOLOGY

The aim of the paper is to analyze the statement of changes in equity of companies that prepare financial statements in accordance with IFRS for 2018, operating in the Slovak Republic in segments of industry focused on intermediate production of motor vehicles, which belong to the dominant segments in GDP growth in Slovakia. When selecting companies operating in the Slovak Republic in 2018 in the segments of the industry focused on intermediate production of motor vehicles for research, 13 companies prepared financial statements in accordance with IFRS, these companies were the subject of our analysis.

Quantitative empirical research is carried out on a complete set of financial statements of all companies operating in the Slovak Republic, which prepared financial statements according to IFRS for 2018 and their subject of business is one of 3 categories of classification of economic activities (SK NACE 29.10.0 Manufacture of motor vehicles, SK NACE 29.31.0 Manufacture of electrical and electronic equipment for motor vehicles, SK NACE 29.32.0 Manufacture of other parts and accessories for motor vehicles), specifically there are 13 companies. According to the subject of activity of each of the examined 13 companies, we classified them into 3 categories according to the classification of economic activities, which showed that 3 companies operate in the production of motor vehicles (SK NACE 29.10.0), 2 companies operate in the production of electrical and electronic devices for motor vehicles (SK NACE 29.32.0) and 8 companies operate in the field of manufacture of other parts and accessories for motor vehicles (SK NACE 29.32.0). Basic descriptive financial information of examined companies for 2018 is given in Table 2. The value of assets, sales, profit/loss and equity are given in thousands of €.

Table 2. Basic financial information of selected companies

Name of company	**SK NACE**	**Total of assets (in '000 €)**	**Sales (in '000 €)**	**Average number of employees**	**Profit or loss after tax (in '000 €)**	**Equity (in '000 €)**
VOLKSWAGEN SLOVAKIA	29.10.0	3,077,672	10,380,075	15,189	191,902	1,400,494
Kia Motors Slovakia	29.10.0	2,163,731	5,185,633	3,748	240,681	1,041,199
PCA Slovakia	29.10.0	815,118	2,803,784	3,766	37,263	168,843
YURA Corporation Slovakia	29.31.0	116,565	381,053	1,630	2,450	23,114
Magneti Marelli Slovakia	29.31.0	181,530	298,192	681	25,618	85,712
JOHNSON CONTROLS INTERNATIONAL	29.32.0	308,269	108,156	1,291	-1,266	83,209
Plastic Omnium Auto Exteriors	29.32.0	223,048	222,380	1,114	-24,129	11,398
Mobis Slovakia	29.32.0	473,962	1,479,930	2,047	45,366	164,423
GETRAG FORD Transmissions Slovakia	29.32.0	123,987	186,860	705	-6,119	10,873
Johnson Controls Lučenec	29.32.0	89,604	0	0	1,097	89,587
Continental Automotive Systems Slovakia	29.32.0	160,727	324,593	1,236	21,946	92,898
ZF Slovakia	29.32.0	299,434	473,227	3,215	17,341	183,829
Faurecia Automotive Slovakia	29.32.0	221,610	863,543	2,504	-18,785	12,430

Source: own processing according to separate financial statements of examined companies

As part of the analysis, we will apply the selection method in selecting a sample of companies and quantitative financial indicators based on data from companies for 2018, published in the public section of the Register of Financial Statements (2019), where companies in the Slovak Republic are required to publish their financial statements. Due to the fact that two companies (JOHNSON CONTROLS INTERNATIONAL and Johnson Controls Lučenec) use the financial year as the accounting period, we will provide data for the accounting period from 1 October 2017 to 30 September 2018. For the remaining companies, the accounting period is a calendar year, ie from 1 January 2018 to 31 December 2018. As part of qualitative research, we analyze the formal content of information published in the statement of changes in equity by the examined companies in the sample in the Slovak Republic.

In quantitative research, we apply a fundamental financial analysis, through which we evaluate the presentation of information on equity in the statement of changes in equity of a sample of companies. At the same time, we will use the median to divide the values of specific equity items according to SK NACE. Subsequently, we use the Pearson correlation coefficient, through which we examine the relationship between the profit or loss for the accounting period and other items of equity, in particular share capital, statutory reserve fund, profit or loss from previous years and dividends. The Pearson's correlation coefficient is one of the most commonly used types of correlation coefficient and it is appropriate to use it if the variables are measured at least on an interval scale, which means that it does not depend on the scale at which the variables were measured. As part of the analysis of companies, we will try to determine the degree of dependence of individual indicators on the economic result of the current accounting period.

4. RESULTS

The statement of changes in equity in accordance with IAS 1 may have the structure set out in Table 3.

Table 3. Structure of the statement of changes in equity

In '000 €	**Share capital**	**Retained earnings**	**Investments in equity unstruments**	**Cash flows from collateral**	**Revaluation benefits**	**Total**	**Non-controlling interests**	**Total after taking into account non-controlling interests**
Balance on 1 January X-1								
Changes in balance sheet policy **Changes in equity for the year X-1** Dividends Total comprehensive income for the period **Balance on 31 December X-1** **Changes in equity for the year X** Share issue								
Dividends								
Total comprehensive income for the period X								
Transfer to retained earnings								
Balance on 31 December X								

Source: IAS 1

An overview of the items in the statement of equity of the examined companies is shown in Table 4. The items show numbers from 1 to 13 representing the numbers of companies that reported a specific item of equity in the statement of changes in equity.

Table 4. Frequency of occurrence of the above information in the statement of changes in equity of examined companies

	Share capital	**Legal reserve fund**	**Retained earnings**	**Share premium**	**Investments in equity unstruments**	**Cash flows from collateral**	**Revaluation benefits**	**Total**	**Non-controlling interests**	**Total after taking into account non-controlling interests**
Balance on 1 January X-1	13	11	13	1			1			
Changes in balance sheet policy			2							
Changes in equity for the year X-1	13	11	13	1			1			
Dividends			11							
Total comprehensive income for the period			11							
Balance on 31 December X-1	13	11	13	1						
Changes in equity for the year X	13	11	13	1						
Share issue										
Dividends			11							
Total comprehensive income for the period X			11							
Transfer to retained earnings										
Balance on 31 December X	13	11	13	1						

Source: own processing according to separate financial statements of examined companies

Based on Table 5 it can be said that all examined companies show a positive value of equity. The problem arises in the case of the reserve fund, which are required to create just limited liability companies and joint stock companies. According to section 124(1) of Act no. 513/1991 Coll. The Commercial Code, as amended (hereinafter the Commercial Code) creates a limited liability company reserve fund at a time and amount determined by the partnership agreement, and if it is not created at the inception of the company, it must be created from net profit reported in regular financial statements. the year in which the profit was first generated, at least 5% of the net profit, but not more than 10% of the share capital, and is obliged to supplement it annually with the amount specified in the articles of association or the articles of association, but at least in in the amount of 5% of the net profit calculated in the annual financial statements until reaching the amount of the reserve fund specified in the articles of association or in the articles of association, but at least up to 10% of the share capital. The joint-stock company creates a reserve fund at its inception in the amount of 10% of the share capital, and is obliged to supplement it annually with the amount specified in the articles of association, but at least 10% of the net profit calculated in the regular financial statements until the amount of the reserve fund determined in statutes up to at least 20% of the share capital in accordance with section 217(1) of the Commercial Code. Following the above facts, we found that 2 examined companies (Magneti Marelli Slovakia and GETRAG FORD Transmissions Slovakia) do not have publish the information about the existence and creation of a statutory reserve fund, despite the fact that the first had the obligation to create it and the second in the past had an obligation to create.

Table 5. Items from the statement of changes in equity of the sample of companies (in '000 €)

Name of company	Share capital	Legal reserve fund	Valuation differences	Retained earnings	Profit or loss for the period after tax	Dividends for the period
VOLKSWAGEN SLOVAKIA balance on 1.1.2018 balance on 31.12.2018	109,598 109,598	21,920 21,920	883 8,234	1,242,139 1,260,742	191,902	173,299
Kia Motors Slovakia balance on 1.1.2018 balance on 31.12.2018	433,323 433,323	43,332 43,332	0 0	423,863 564,544	240,681	100,000
PCA Slovakia balance on 1.1.2018 balance on 31.12.2018	119,505 119,505	11,950 11,950	0 0	46,915 37,571	37,263	46,607
YURA Corporation Slovakia balance on 1.1.2018 balance on 31.12.2018	9,323 9,323	1,037 1,037	0 0	16,305 12,755	2,450	6,000
Magneti Marelli Slovakia balance on 1.1.2018 balance on 31.12.2018	103,007 103,007	0 0	0 0	-42,912 -17,295	25,618	0
JOHNSON CONTROLS INTERNATIONAL balance 1.10.2017 balance 30.9.2018	69,717 69,717	6,972 6,972	0 0	7,786 6,520	-1,266	0
Plastic Omnium Auto Exteriors balance on 1.1.2018 balance on 31.12.2018	14,795 34,795	1,479 1,479	0 0	-611 -24,265	-24,129	0
Mobis Slovakia balance on 1.1.2018 balance on 31.12.2018	68,000 68,000	6,800 6,800	0 0	114,257 89,623	45,366	70,000
GETRAG FORD Transmissions Slovakia balance on 1.1.2018 balance on 31.12.2018	133 133	0 0	0 0	-1,614 -7,733	-6,119	0
Johnson Controls Lučenec balance on 1.10.2017 balance on 30.9.2018	8,508 8,508	51 51	0 0	-310,423 -308,979	1,097	0
Continental Automotive Systems Slovakia balance on 1.1.2018 balance on 31.12.2018	3,983 3,983	730 730	0 0	23,750 45,696	21,946	38,340
ZF Slovakia balance on 1.1.2018 balance on 31.12.2018	52,980 52,980	10,596 10,596	0 0	12,019 16,944	17,341	12,019
Faurecia Automotive Slovakia balance on 1.1.2018 balance on 31.12.2018	5 5	0 1	0 0	31,173 12,425	-18,785	0

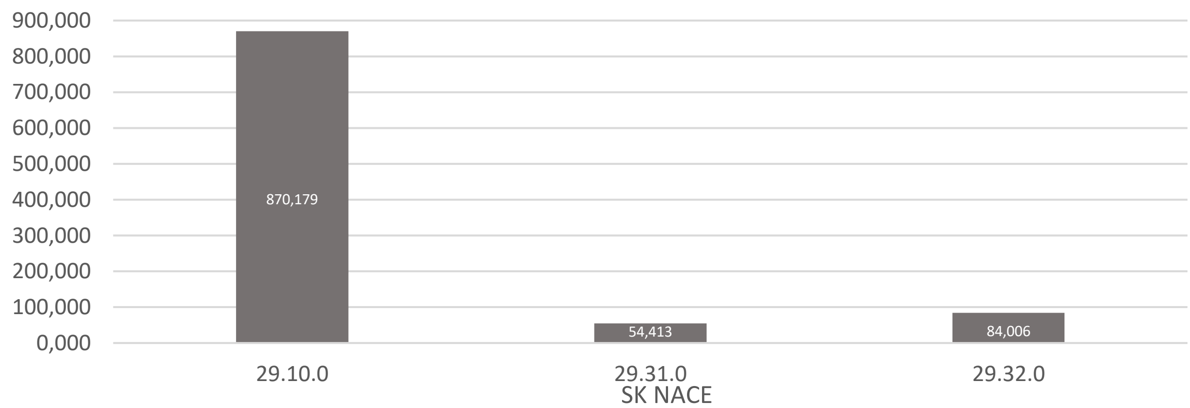
Source: own processing according to separate financial statements of examined companies

Table 5 further shows that 6 examined companies did not pay dividends to shareholders, respectively information on dividend payments was not included in the financial statements. Specifically, it is a company Magneti Marelli Slovakia, JOHNSON CONTROLS INTERNATIONAL, Plastic Omnium Auto Exteriors, GETRAG FORD Transmissions Slovakia, Johnson Controls Lučenec and Faurecia Automotive Slovakia. In the case of JOHNSON CONTROLS INTERNATIONAL, Plastic Omnium Auto Exteriors, GETRAG FORD Transmissions Slovakia, Faurecia Automotive Slovakia no dividends were paid due to the fact that they made a loss in the period under review that needs to be settled. Given that these companies had achieved the loss from the previous period, they were not required to pay dividends; on the contrary, the shareholders had to settle that loss. In the case of Johnson Controls Lučenec, it was merged with JC Auto Slovakia Holding, on 1 October 2017 while the successor company became Johnson Controls Lučenec. In the previous period, Johnson Controls Lučenec reported a loss, so it was not required to pay dividends. Magneti Marelli Slovakia did not present this information in the financial statements in the period under review or in the immediately preceding period, despite the fact that it made a profit in both accounting periods.

Finally, based on Table 5, it can be stated that 4 companies (JOHNSON CONTROLS INTERNATIONAL, Plastic Omnium Auto Exteriors, GETRAG FORD Transmissions Slovakia and Faurecia Automotive Slovakia) achieved a loss in the period under review, but its amount did not significantly affect the total amount of equity.

The average value of equity in 2018 was the highest in the case of companies operating in the field of motor vehicle production, where the value was equal to € 870,179,000. On the contrary, the lowest average value of equity (€ 94,231,000) was reported in 2018 by company operating in the production of electrical and electronic devicec for motor vehicles (Figure 2.).

Figure 2. The average value of equity according to SK NACE (in '000 €)



Source: own processing according to separate financial statements of examined companies

Half of the examined companies show an equity value equal to or higher than € 89,587,000 and half show an equity value of € 89,587,000 or less, which is the median equity of the examined sample (Table 6).

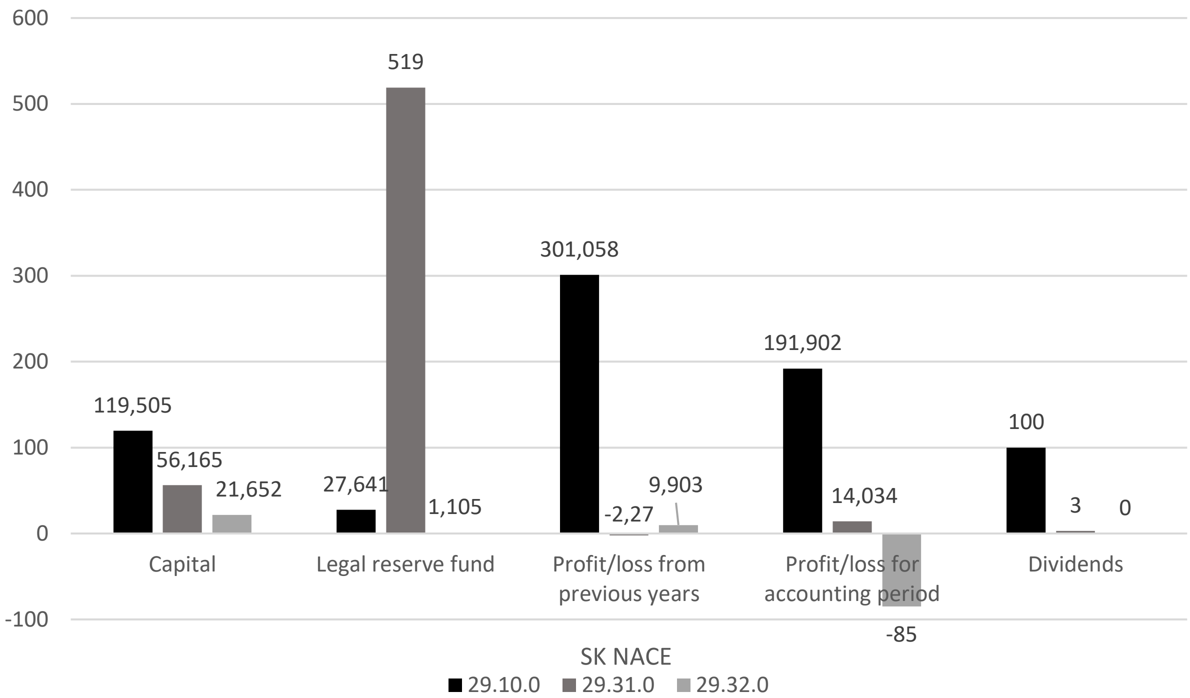
Table 6. Median of selected equity items in the sample of companies (in '000 €)

Equity items	Share capital	Legal reserve fund	Retained earnings	Profit or loss for the period	Dividends
Median	52,980	1,258	12,222	17,341	6,000

Source: own processing according to separate financial statements of examined companies

The median of individual equity items according to SK NACE in '000 € is shown in the Figure 3.

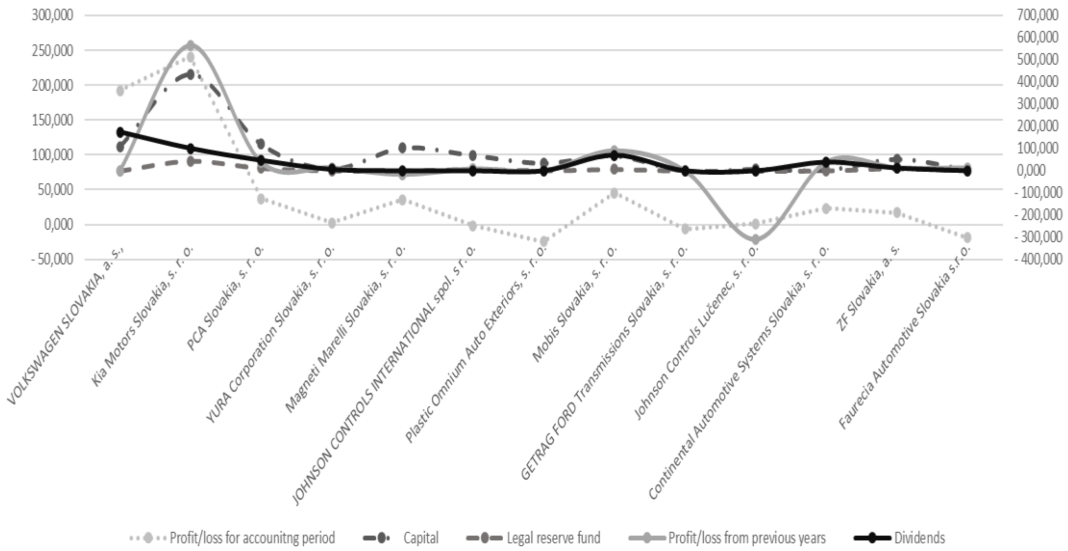
Figure 3. The median of individual equity items according to SK NACE (in '000)



Source: own processing according to separate financial statements of examined companies

The correlation analysis carried out on a sample of 13 companies operating in the automobile industry showed a strong relationship between profit or loss for the accounting period and individual equity items, ie between share capital, statutory reserve fund, dividends paid and also profit or loss from previous years. The value of the correlation coefficient ranged from 0.84 to 0.94, with a higher correlation between the economic result for the accounting period and the statutory reserve fund, where the value of the correlation coefficient reached 0.94 (Figure 4). When examining the relationship between the profit or loss for the current accounting period and dividends, or the profit or loss from previous periods, the value of the correlation coefficient is approximately the same, specifically reaching 0.87 (Figure 4).

Figure 4. Impact of profit or loss for the accounting period on individual items of equity



Source: own processing according to separate financial statements of examined companies

5. CONCLUSION

Financial statements are a structured presentation of the facts that are the subject of accounting, provided to persons who use this information. In accordance with applicable Slovak legislation in the field of accounting, the financial statements of companies accounting in the double-entry bookkeeping system consist of the balance sheet, statement of profit and loss and notes, which in some cases also include an overview of equity movements and cash flows. On the other hand, financial statements prepared in accordance with IFRS consist of the statement of financial position, the statement of profit or loss and other comprehensive income, the statement of changes in equity, the statement of cash flows and the notes. Accounting entities that meet the requirements of the Accounting Act in the Slovak Republic are required to prepare financial statements in accordance with IFRS. It is to these companies in the automobile industry that we have focused on our analysis.
The statement of changes in equity, in contrast to the financial statements prepared in accordance with the Slovak Accounting Standards, is a mandatory part of the financial statements prepared in accordance with IFRS, therefore it can be considered as an equivalent part of the financial statements. The statement of changes in equity discloses changes in the company's net assets (increase or decrease) during the period. The statement of changes in equity can be used to identify the causes that led to changes in equity between the two closing days. Only transactions with equity holders (for example, dividend payments or deposits in funds, comprehensive income for the accounting period, etc.) may be reported in the statement of changes in equity. The statement of changes in equity should also show for each equity account the reconciliation of the opening balance and the final balance and show each change separately.

Information about equity cannot be assessed solely on the basis of the statement of changes in equity, as it is only one part of the financial statements. The financial statements must be considered as a whole. Equity, respectively some of its items are presented in all parts of the financial statements prepared either in accordance with Slovak legislation or in accordance with IFRS, which ensures interconnection within the four-balance sheet system of accounting statements in the financial statements. Based on the statement of changes in equity, it is possible to analyze movements in equity for the current and immediately preceding accounting periods, so that year-on-year changes in indicators can be compared.

Based on the analysis of 13 companies operating in the automobile industry in the Slovak Republic in 2018, it can be stated that they present in the statement of changes in equity only basic items, ie the amount of share capital, legal reserve fund, retained earnings and profit for the current accounting period. At 6 companies (Magneti Marelli Slovakia, JOHNSON CONTROLS INTERNATIONAL, Plastic Omnium Auto Exteriors, GETRAG FORD Transmissions Slovakia, Johnson Controls Lučenec and Faurecia Automotive Slovakia) it was not possible to identify the payment of dividends to partners, because this information was not included in the financial statements. In the case of Magneti Marelli Slovakia, JOHNSON CONTROLS INTERNATIONAL, Plastic Omnium Auto Exteriors no dividends were paid due to the loss for the current period. Despite the fact that 4 companies (JOHNSON CONTROLS INTERNATIONAL, Plastic Omnium Auto Exteriors, GETRAG FORD Transmissions Slovakia, Faurecia Automotive Slovakia) made a loss in the period under review, its amount did not have a dramatic effect on the total amount of equity, because the amount of other equity items exceeded the loss for the period under review, which implies that these companies have sufficient own sources to settle the loss. The performed correlation analysis shows that the nature of the profit or loss significantly affects other items of equity, so it can be argued that there is a strong linear relationship between the profit or loss for the accounting period and individual items of equity.

The subject of the future research will be a further analysis of changes in equity indicators based on the statement of changes in equity and their causes, we will also analyze the financial situation of the examined companies, we will focus on the interconnectedness of individual components of financial statements and the relevance of equity information. At the same time, we will focus on defining recommendations for further and more precise information that the analyzed companies should add to the statement of changes in equity in order to avoid misunderstandings by users.

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IFRS FOR SMES IN ACADEMIA DEBATES – A STRUCTURED LITERATURE REVIEW

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Abstract
Idea: To present a Structured Literature Review of the most relevant publications regarding IFRS for SMEs by studying their impact and contributions.
Data: Articles from the WOS and Google Scholar database.
Tools:95 articles from the WOS and Google Scholar database found after the terms "IFRS for SMEs" for 2000–2019 using NVivo qualitative data analysis software.
What`s new?: Three key findings: (1) Focusing on the most cited articles allows researchers to understand how a particular domain has developed, identifying the articles with the most significant contribution. (2) The primary concern of the authors was the adoption and implementation of the IFRS for SMEs, studying several points of view (such as from stakeholders' point of view, the level reached after harmonization or the link between adoption and the quality of accounting information). (3) For the adoption process to have a victorious and productive end, all possible problems and obstacles must be resolved through the joint efforts of regulators, accountants and SMEs.
So what?: SLR is a method that has many advantages in developing a literature review. SLR has essential criteria that a review of traditional literature neglects, such as literature analysis protocol, article impact analysis, analytical framework, data coding and the development of future research critiques and direction.
Contribution: This article is an essential contribution to accounting research because as far as we know, only one article contains a SLR about IFRS for SMEs. Our results can help accounting academics to find the most attractive articles to cite them in future research.

Keywords: *IFRS for SMEs, structured literature review, impact analysis, Nvivo*

1. INTRODUCTION

IFRS emerged because it was considered that applying a set of standards would facilitate the comparison of the financial performance of companies in different countries (Jeanjean & Stolowy, 2008). According to the IASB's mission, IFRS standards have sought to bring transparency, accountability and efficiency to global financial markets, improving the quality of accounting standards (IFRS, 2020).

IFRS for SMEs was considered the result of a rigorous process initiated by the International Accounting Standards Board (IASB) to establish a simplified version of the IFRS complete. IFRS for SMEs has been issued to be applied by entities that do not have public responsibility, but that prepare general purpose financial statements for external users.

The current literature often proposes that accounting reporting must go beyond its traditional limits to meet better the information needs of a wider group of stakeholders, like shareholders, creditors, customers, suppliers, debt holders, government or the general public.

The standards have been customized for small and medium-sized entities and focus on the information needs of creditors and other users of SMEs' financial statements. It also contains many principles that have been simplified for the recognition and measurement of assets, liabilities, income and expenses.

The adoption of IFRS for SMEs is seen as a way to increase SMEs' access to international finance through high quality and harmonized financial information. It is considered that this reporting language will increase the international comparability of SMEs. And also will represent an evolution for the SMEs sector if the benefits of adoption are recognized at the national level (Perera & Chand, 2015).

In this paper, we will use the Structured literature review method (SLR) to analyze the IFRS for SMEs literature. This kind of analysis has been used over time to explore and critique different areas of research.

2. METHODOLOGY

The analysis of the specialized literature represents a critical look at the research in the field, helping to know the concepts with which it operates, the theories, the researched problems, the data sources, the methods used but also the results obtained. It is done to find out what is the current state of knowledge in the field and the context in which their research will be developed.

The analysis has a multitude of objectives. Among the most important, we find, the examination of old theories to provide guidance for future studies or to briefly reproduce specific researched problems (Petticrew & Roberts, 2008). Due to the different objectives, the increasing complexity, the growing number of publications, but also the research methods, there are a significant number of approaches for the elaboration of the literature review. It has led to the emergence of a large number of terminologies, which despite having different names, are based on the same characteristics, namely: collecting, evaluating and presenting available research evidence (Arksey & O'Malley, 2005).

SLR is a method of studying the scholarly literature for the development of new perspectives, critiques, future directions and research questions (Massaro, Dumay, & Guthrie, 2016). To meet the proposed objective of the paper will be used the method for SLR in accounting studies proposed by Massaro et al. (2016). This approach has been used successfully for the study of interdisciplinary areas of accounting, auditing and accountability (Guthrie & Parker, 2011), knowledge management in the public sector(Massaro et al., 2016), protection of organizational knowledge (Manhart & Thalmann, 2015), human capital accounting (Guthrie & Murthy, 2009), the use of content analysis (Dumay & Cai, 2015), intellectual capital (Dumay, 2014) and integrated reporting (Dumayet et al., 2016) to provide perspectives and critiques for establishing new research directions. SLR process was developed from five stages (Guthrie et al., 2012) to the ten steps described by Massaro et al. (2016).

Table 1. The process to develop a structured literature review

1. Protocol	**Writing the literature review protocol**
2. Questions	1. How is the research for inquiring into IFRS for SMEs developing? 2. What is the focus and critique of IFRS for SMEs? 3. What is the future for IFRS for SMEs?
3. Literature search	Research Field
4. Article impact	Total citation analysis Citation per year analysis
5. Analytical framework	(A) Year (B) Academics, consultants and practitioners (C) Country / Region of research (D) Research methods (E) Research focus
6. Reliability	Reliability measures
7. Validity	Internal validity External validity Construct validity
8. Code	Code papers using QCA software
9. Insights	Develop insights Develop critique
10. Future research paths and questions	Develop future research paths and questions

Source: adapted from Dumay et al., 2016

Regarding IFRS for SMEs, this approach has been used by Issam & Abdellatif (2017), where the most cited articles from the Web of Science were analyzed. Our paper will expand the analysis, in which we will include both articles published in WoS and Google Scholar, but covering a more extended period (2000–2019). The SLR method will be applied to a sample of articles published in academic journals and papers published in conference volumes. We chose to review papers published in conference volumes because we find pieces of information about areas of debate that will later appear in academic journals (Dumay et al., 2016). Also, to make the language as accessible as possible, we will use the term “articles” when referring to both articles and papers published in conference volumes.

2.1 The literature review protocol

The purpose of establishing a literature review protocol is to detail the ideas that will guide us throughout the application of SLR. Through this detailing of ideas, a procedure is formed, improving the quality and reliability of research (Massaro et al., 2016)

Table 2. The literature review protocol

Research questions	What are the topics analyzed in the research studies of IFRS for SMEs? What are the main results and conclusions?
Method used	SLR`s process
Types of studies used	Articles and papers published in conference volumes: written in English, with citations until 2015 (2000–2005) without citations after 2015, considering that they are not very old and may be of great interest in the future available to the public
Means used	Web of Science, Google Scholar
Evaluation of the articles	SLR`s steps

We chose as a criterion the number of citations (Citation classics) because there is empirical evidence that authors cite works based on their content. Consequently, there is a direct link between the quality of the paper and the citation index (Baldi, 1998). Therefore, focusing on the most cited articles allows researchers to understand how a particular field has developed and also to identify the articles that make the most significant contribution to it (Serenko & Dumay, 2015).

2.2 Research questions

The authors use SLR because it gives them an overview of what has been written up to a certain point, allowing them to identify future research directions based on critiques of existing research (Massaro et al., 2016). Research questions contribute to the development of an imaginative approach that focuses on the analysis and helps to provide new perspectives on the field (Hart, 1998). We adapted the three research questions set by Massaro et al (2016), referring to the IFRS for SMEs field, as follows:

- How is the literature of IFRS for SMEs developing?
- What is the focus of the literature IFRS for SMEs?
- What are the future directions of research in the literature IFRS for SMEs?

2.3 The literature search

During this stage, we selected the scientific articles from the Clarivate Analytics database, the Web of Science (WoS) platform and the Google Scholar database based on the terms “IFRS for SMEs” that appear in the title, abstract or keywords of the papers. and sometimes in content (Dumay et al., 2016) Keyword research is a powerful tool that helps researchers find relevant articles in a particular field of study, especially when investigating an emerging area for which there is little literature (Massaro, et al., 2016).

For the query of the WoS platform, we used the year 2000 as the start date and the year 2019 as the end date. After the query, 95 scientific articles resulted. Of the 95 articles, we excluded articles that were written in another foreign language, leaving a sample of 90 articles written in English. The remaining sample consisted of 45 papers published in conference volumes, 43 articles, a book chapter, editorial material and a review. From the 90 articles, we excluded the ones that did not have any citations until 2015 inclusive. Still, we kept the ones that recorded WoS citations, considering them relevant regardless of their type (article, proceedings paper, review, editorial material). We also kept the articles without citations from after 2015, considering that they are not very old and may be of interest in the future. After removal, the sample was left with 64 scientific articles. The last criterion that was taken into account in the formation of the database was the availability of articles. So, out of the 64 articles obtained in the previous step, we eliminated the articles that are not available to the public, reaching a sample of 42 scientific articles, consisting of 27 articles, 14 papers published in conference volumes and a review.

The same steps were followed for querying the Google Scholar platform, but a large number of results resulted, making it impossible to analyze the articles. We resumed the search for scientific papers in the Google Scholar database based on the terms "IFRS for SMEs" which appear only in the title, resulting in 442 results. From the resulting articles, we excluded the articles found in the Web of Science and which were written in another foreign language. As in the Web of Science articles, we have established the same database for downloadable Google Scholar scientific articles, possible articles that address the topic of IFRS for SMEs. Next, for a more detailed analysis, we performed the following filters using the database we created.

First of all, we filter from the 66 papers only the articles that received at least one citation until 2015. We also kept the ones without citations after 2015, considering that they are not old enough and may be of interest future. After elimination, the sample was left with 53 scientific articles.

The last criterion that was taken into account in the formation of the database was the availability of articles. Therefore, all the articles obtained in the previous step are available to the public. According to the type of articles, the sample consists of 43 articles and 10 papers published in conference volumes.

After forming the sample, we downloaded the PDF versions of these articles and stored them in the Mendeley database with complete reference details (Dumay et al., 2016). As a result, the final sample consisted of a total of 95 scientific articles (42WoS articles; 53 Google Scholar articles) addressing IFRS-related topics for SMEs.

2.4 Article impact

The fourth step involves determining the impact of articles based on the number of citations using Harzing's Publish or Perish software. We measured the impact of articles based on the number of citations of Google Scholar and WoS articles ((Dumay et al., 2016; Massaro et al., 2016) recorded on May 20, 2020. Table 3 shows the top five articles from both databases used by the number of citations, collected using Harzing's Publish or Perish software.

Table 3. Top five articles by WoS and Google Scholar citations

No. Art	Title	Author	Total Citations GS	Total Citations WOS
	WOS			
1	Implementation of IFRS for SMEs in Emerging Economies: Stakeholder Perceptions in the Czech Republic, Hungary, Romania and Turkey	Albu et al. (2013)	83	27
2	Countries' adoption of the International Financial Reporting Standard for Small and Medium-sized Entities (IFRS for SMEs) - early empirical evidence	Kaya and Koch (2015)	61	17
3	Issues in the adoption of international financial reporting standards (IFRS) for small and medium-sized enterprises (SMES)	Perera and Chand (2015)	55	8
4	Romanian professional accountants' perception on the differential financial reporting for small and medium-sized enterprises	Bunea et al.(2012)	49	0
5	IFRS for SMEs: the IASB'S due process	Ram and Newberry (2013)	44	11

	Google Scholar			
1	Perceptions and knowledge of accounting professionals on IFRS for SMEs: Evidence from Turkey	Uyar and Güngörmüş (2013)	73	-
2	The Context of the Possible IFRS for SMEs Implementation in Romania: An Exploratory Study	Albu, Albu, and Fekete (2010)	59	-
3	Is There a Solid Empirical Foundation for the IASB's Draft IFRS for SMEs?	Schiebel (2008)	54	-
4	IFRS for SMEs – An Option for U.S. Private Entities?	Jermakpwicz and Epstein (2010)	43	-
5	In what ways are countries which have already adopted IFRS for SMEs different	Bohusova and Blaskova (2012)	39	-

As at May20, 2020

We continue our research with the top five articles by number of citations per year. We use this approach, which we exemplify by two separate rankings, using the total number of citations and the number of citations per year to counterbalance the trend, as it is considered that older articles may accumulate more citations (Dumay & Dai, 2017). (Table 4)

Table 4. Top five articles – CPY

No. Art	**Title**	**Author**	**Citation/ Year**
1	Countries' adoption of the International Financial Reporting Standard for Small and Medium-sized Entities (IFRS for SMEs) – early empirical evidence	Kaya & Koch (2015)	12.2
2	Implementation of IFRS for SMEs in Emerging Economies: Stakeholder Perceptions in the Czech Republic, Hungary, Romania and Turkey	Albu et al., (2013)	11.86
3	Issues in the adoption of international financial reporting standards (IFRS) for small and medium-sized enterprises (SMES)	Perera c Chand (2015)	11
4	Perceptions and knowledge of accounting professionals on IFRS for SMEs: Evidence from Turkey	Uyar & Güngörmüş (2013)	10.43
5	The macroeconomic determinants of the adoption of IFRS for SMEs	Bonito & Pais (2018)	8.5

As at May 20, 2020

Following the two rankings (Table 3 and Table 4), it can be seen that there are four common articles (Albu et al., 2013; Kaya & Koch, 2015; Perera & Chand, 2015; Uyar & Güngörmüş, 2013). However, when we analyze CPY (Citation/Year), we notice that a more recent article appears (Bonito & Pais, 2018) which indicates that there is a strong interest among researchers to cite even the latest research in the IFRS literature for SMEs and, given the time period between the submission and publication of articles and the time period analyzed in our study (2000–2019) it is a good thing for them to obtained citations in such a short time.

Also, if we compare the results in Table 3and Table 4, we see three articles (Albu et al., 2013; Kaya & Koch, 2015; Perera & Chand, 2015;) presented in the two rankings, indicating that these articles are qualitative, having great importance in IFRS for SMEs research.

2.5 Define the analytical framework

In the fifth stage, we define the analytical framework as presented in the following table (Table 6). We chose to use the model used by Dumay (2016) and to Massaro et al. (2016) to develop the framework and to adapt the criteria and attributes for the IFRS for SMEs literature.

Table 5. Analytical framework

No. Crt	Criterion	Articles with these criteria
1	Year	Guthrie and Murthy 2009; Guthrie et al., 2012b; Serenko and Dumay 2015
2	Authors type	Dumay et al. 2016; Guthrie et al., 2012b; Massaro et al. 2016
3	Location	Broadbent and Guthrie 2008; Guthrie and Murthy 2009; Guthrie, Ricceri, and Dumay 2012b, Broadbent and Guthrie 2008; Guthrie and Murthy 2009, Guthrie et al., 2012b;
4	Focus of literature	Parker 2005, Broadbent and Guthrie 2008; Guthrie and Murthy 2009, Guthrie et al., 2012b;
5	Research methods	Parker 2005, Broadbent and Guthrie 2008; Guthrie and Murthy 2009, Guthrie et al., 2012b;

We use “Year” as a criterion because it allows the analysis of contributions over time, “Authors type” to determines the presence of the superstar/Matthew effect where a small number of authors produce most of the contributions, “Location” it allows researchers to understand what are the geographic areas that are more investigated and if there are other countries/regions that require attention, “Focus of literature” it refers to the specific topic developed by previous studies and ”Research methods” it refers to the epistemological approach used in developing the research.

2.6 Developing reliability

To determine the reliability of our sample, we started from Krippendorff (2013) recommendation that the data collected were generated with every conceivable precautionary measure in force against known, intentional or accidental pollutants, distortions and biases and that it means the same thing to everyone who uses them.

To this end, the data source of our articles is the main impediment to trust, because both Web of Science and Google Scholar give different results if we delete the letter “S” at the end of the search term “IFRS for SMEs”. To increase the level of confidence, we established as criteria for the sample, the terms “IFRS for SMEs” that appear in the title, summary, or keywords of the articles and sometimes in the content and use as the starting date 2000 and the final date 2019. The goal of setting these criteria was to generate the same results for all those who will use our queries in the future, fulfilling the recommendation of Krippendorff (2013).

2.7 Testing literature review validity

The purpose of the SLR is to evaluate the existing literature by finding the answers to the specific research questions. The main obstacle in the development of SLR is the temptation to conclude only because there is some evidence that seems to lead in an exciting direction. However, to overcome this obstacle, existing evidence must be subjected to any possible test (Silverman, 2013). Therefore, validity tests are used to verify the accuracy of the findings (Franklin et al., 2010).

We distinguish three types of validity: internal, external and constructed validity (White & McBurney, 2012). Internal validity refers to the extent to which the criteria identified for the literature review are adequate and comprehensive (Massaro, et al., 2016). It was done when defining the analytical, according to the IFRS for SMEs field, where we identified five criteria: year of publication, authors type, location of research, literature focus and research method. External validity ensures the completeness of the sources used (Massaro, et al., 2016). The external validity test was provided in the literature search process, where we detailed the criteria for searching and selected the sample. The validity of the construction takes into account the quality of the analysis units used, in this case, the quality of the revised works. According to Massaro et al. (2016) the quality can be ensured by analyzing citations, and for this purpose, we analyzed the impact of articles.

2.8 Article coding

Initially, we used the criteria and attributes proposed by (Massaro, Dumay, et al., 2016) and developed by Dumay et al. (2016), which we adapted to the field of research by removing and adding new attributes related to IFRS for SMEs.

The SLR process is not only a rigid approach but is flexible and develops iteratively (Dumay et al., 2016). The coding process of the scientific papers was performed with the help of a QCA software, respectively, with the NVivo software (12 Plus).

Table 6. The results of the analysis

(A) Year publication						**(D) Focus of the literature**		
B1	2007	4	B8	2014	9	D1	Accounting, taxation and financial reporting	12
B2	2008	2	B9	2015	11	D2	Content of IFRS for SMEs	4
B3	2009	2	B10	2016	11	D3	Accounting harmonization and convergence	9
B4	2010	9	B11	2017	11	D4	Differences – IFRS for SMEs and national regulations	6
B5	2011	8	B12	2018	6	D5	Adoption and implementation of IFRS for SMEs	58
B6	2012	13	B13	2019	7	D6	IFRS for SMEs – Literature	2
B7	2013	5				D7	Impact and development of IFRS for SMEs	13
(B) Authors type						**(E) Research methods**		
A1	Academics				92	E1	Case/Field study/Interviews	22
A2	Consultants and practitioners					E2	Commentary/Normative/Policy	6
A3	Academics, consultants and practitioners				6	E3	Content analysis/Historical analysis	43
						E4	Literature review	19
(C) Location						E5	Statistical methods	12
C1	Europa	46	C5	Oceania	4	E6	Survey/Questionnaire/Other empirical	31
C2	Africa	11	C6	America	6			
C3	Middle East	2	C7	General	22			
C4	Asia	13						

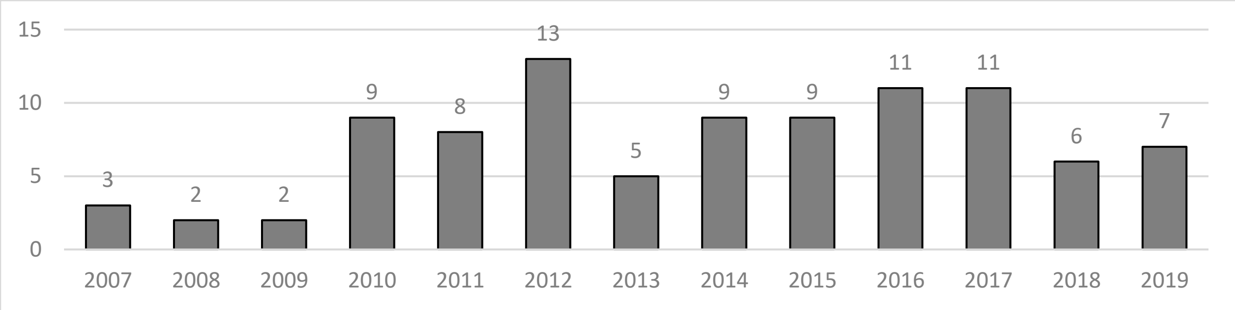
3. RESULTS

The research follows the stages of the SLR method, classifying the articles according to the SLR scheme and the modifications we include to perform the analysis of the criteria chosen for “IFRS for SMEs”.

3.1 Year of publication

The first criterion, (A) Year of publication, was taken from the work of Massaro et al. (2016) to analyze the contribution made over time. The following 13 attributes were assigned to the criterion (Figure 1), where we can see that the years 2010, 2012, 2014, 2015, 2016 and 2017 represented the peak years for publication in the researched field.

Figure 1. Year of publication



We can appreciate that during the analysis period, the interest of academics was low before the publication of the IFRS for SMEs and relatively constant and moderate, maintaining an acceptable level, less the sharp decrease in 2013, during the post-publishing the IFRS for SMEs (2009).We conclude that financial reporting for small and medium enterprises is a point of interest in the accounting field.

In 2007, the IASB published the IFRS project for SMEs, which aimed to provide a simplified stand-alone set of rules, based on the full IFRS, but adapted for private entities. The adaptation was based exclusively on the common information needs of external users of the financial statements of SMEs (Schiebel, 2007). Although the search period for articles to analyze is 2000–2019, we did not find articles that met the criteria set out in the search process and the first articles that addressed the topic were published only in 2007, after the publication of the IFRS for SMEs project. Therefore, no empirical analyzes have been conducted worldwide to demonstrate the common information needs of external users of SMEs' financial statements or to test whether IFRS for SMEs meets the common information needs of its targeted external users.

3.2 Authors type

The second criterion of the analysis (B) The type of authors was taken and adapted from the work of Dumay et al. (2016) and Massaro et al. 2016 to determine their contribution and membership in the IFRS for SMEs literature. This criterion has been assigned the following attributes: (A1) Academics, (A2) Consultants and Practitioners, and (A3) Academics, Consultants and Practitioners.89 papers are included in the first attribute (A1) Academics, no articles are included in the second attribute (A2) Consultants and practitioners and the third attribute (A3) Academics, consultants and practitioners we framed 6 articles.

After a brief analysis of the 176 authors who published the 95 articles analyzed, we noticed consultants or practitioners wrote a few articles but in collaboration with academics. Most of the analyzed articles were written by academics, respectively 94% and only 6% of them by academics but in collaboration with consultants and practitioners. Moreover, 21 of the analyzed authors published more than one paper and only 10.2% of the analyzed articles were made through an international collaboration between authors. We were also able to identify the most notable academics of the field, Cătălin Albu and Nadia Albu, with 6 articles each made in collaboration with academics of the same nationality, as well as with foreign academics.

3.3 Location

Criterion (C) Location investigated was used by Broadbent & Guthrie (2008); Guthrie & Murthy (2009); Guthrie et al. (2012) and by Dumay et al. (2016). To be relevant to our analysis, we adapted the original attributes that represented geographical regions (Dumay et al., 2016), because, in the analyzed articles, the research was done at country or continent level (Europe).

Since the analyzed articles address studies in which the sample consists of several countries, we considered it appropriate to group these countries into 6 regions. For articles that do not study a particular country or region, we have added the (C7) General attribute (Table 7).

Table 7. Location

No. Crt	Location	Articles
C1	Europe	47
C2	Africa	11
C3	Middle East	2
C4	Asia	11
C5	Oceania	3
C6	America	6
C7	General	22

The most studied region was Europe in 47 articles (49%), which is surprising because, in terms of adoption, Europe is not the largest region with countries that have adopted IFRS for SMEs, but Africa and the Middle East. Asia and Africa follow Europe with 11 articles (11.5%).

Firstly, Europe is the most studied region because there were many discussion about how non-EU countries adopt IFRS for SMEs without any modifications, but the supranational forces in the EU limit EU Member States' ability to adopt IFRS for SMEs. In the past years, the European Commission rejected the option to adopt IFRS for SMEs at supranational level due to concerns about overly burdening private firms. So, in spite to the IASB's overall objective to develop and promote globally accepted accounting standards, we expect that EU countries will implement IFRS for SMEs with great modifications to fully comply with the requirements of the EU Accounting Directive or will either not adopt IFRS for SMEs. Secondly, Europe is the most studied region, also because many European academics wrote about the current situation in their country regarding the adoption if IFRS for SMEs.

Overall we have identified 22 articles (23%) that address the topic of IFRS for SMEs, where is not mention a specific country or region. Thus we choose not to add some attributes, such as the country of the first author, not to influence the analysis of the studied regions. We also added the article to each attribute if we encountered analyzes on several countries from the different areas, for example, Gassen's (2017) article that includes countries from three regions established as attributes.

Analyzing all the items in the sample, we identified 62 countries in which analyzes were performed on various topics related to IFRS for SMEs. Of the 62 countries encountered in the regions established as attributes, the most studied country is Romania with 14 articles, followed by the Czech Republic with 10 articles. Romania is the most studied country because 19 of the authors of the analyzed articles are Romanians. We can also conclude that the Middle East is the least studied region, with only two countries surveyed, Saudi Arabia and the United Arab Emirates, which is surprising when we consider the size of the economy of these countries.

Besides, following the analysis of citations per article and the analysis of the countries studied, we notice that studies comparing different countries or regions are more frequently cited, in contrast to those that focus on a particular country or region.

3.4 The focus of ifrs for smes literature

According to the model of Dumay et al. (2016), we adopted criterion (D) Focus of literature. For this criterion to be in line with the classification scheme, we chose attributes specific to the accounting field, more precisely the subjects that represented the points of interest in the studies made for IFRS for SMEs. The attributes are found in Table 8.

Table 8. Focus of literature

No. Crt	Atributes	Articles
D1	Accounting, taxation and financial reporting	9
D2	Content of IFRS for SMEs	4
D3	Accounting harmonization and convergence	9
D4	Adoption and implementation of IFRS for SMEs	58
D5	IFRS for SMEs - Literature	2
D6	Impact and development of IFRS for SMEs	11
D7	Need to issue IFRS for SMEs	4

Following the analysis, we notice that the most studied topic was the attribute (D4) Adoption and implementation of IFRS for SMEs with 58 articles, followed by the attribute (D6) Impact and development of IFRS for SMEs with 11 articles.

The adoption and the implementation of the standard is an important topic because can contribute to the establishment of new partnerships with companies with foreign capital and can encourage the international development of the company, improving the comparability of financial information of SMEs both nationally and internationally (Bartuňková, 2012; Bohusova & Blaskova, 2012; Perera & Chand, 2015). The adoption is seen as a way to improve disclosure policies and accounting systems, thus increasing the integration of national markets into global markets to accelerate economic growth. At the same time, adopting the standard as a common international accounting framework has many benefits, such as improving the quality of financial reporting, facilitating the comparability of financial statements and increasing transparency, removing cross-border barriers, greater accessibility to compare financial statements and increasing transparency, all leading to increased market efficiency and lowering the cost of capital.

The adoption of the standard is also supported by companies belonging to international groups that conclude their financial statements under IFRS (Bartuňková, 2012). All this is leading to an increase in the level of confidence of investors and analysts in financial statements (Mahmood et al., 2018).

An advantage is also the facilitation of the contracting environment, more precisely the increase of a country's capacity to contract loans locally (Mawutor et al., 2019) but also from international organizations (World Bank, IMF) (Kaya & Koch, 2015), as well as the emergence of new opportunities to increase investment (Mandilas et al., 2010). Adopting IFRS for SMEs could reduce the costs of developing their financial accounting standards because countries without a national set of financial accounting standards are more likely to adopt IFRS for SMEs (Bonito & Pais, 2018).

For the adoption process to have a victorious and productive end, all possible problems and obstacles must be resolved through the joint efforts of regulators, accountants and SMEs. Therefore, an essential factor in the adoption process is represented by professional accountants, so their training is necessary (Mahmood et al., 2018).

The obstacles identified in the adoption process were significant. We can mention here differences between IFRS for SMEs and national regulations, costs of applying the standard (Atik, 2010; Kiliç et al., 2016), lack of knowledge and limited resources (Mandilas et al., 2010), lack of trained staff (Kiliç et al., 2016) but also the high cost of hiring and retaining professional accountants with IFRS competencies, level of education (Oyewo, 2015), the complexity of the standard (Masca, 2012), reporting orientation to comply with fiscal rules and neglect accounting standards (Hoxha, 2014).

3.5 Research methods

For the Research Methods criterion, adapted from Guthrie et al., 2012 and Dumay et al., 2016, were tained seven attributes. We decided to add an extra attribute ((E7) Mixed methods) for articles that combine two attributes to make it more transparent what is used in each article. We also added (E5) Statistical methods because we could not integrate those articles in any other category mentioned above.

Table 9. Research methods

No. Crt	Attributes	Articles
E1	Case/Field study/Interviews	10
E2	Commentary/Normative/Policy	1
E3	Content analysis/Historical analysis	25
E4	Literature review	6
E5	Statistical methods	9
E6	Survey/Questionnaire/Other empirical	17
E7	Mixed methods	27

We notice that the most used research method was the (E7) Mixed methods with 27 papers, followed by (E3) Content analysis/Historical analysis with 25 articles.

Content analysis is a widely used methodology because it offers essential advantages in collecting information that can be quantified and subsequently subjected to various statistical tests, while being a less time-consuming methodology than other methods, such as questionnaires (Cuozzo et al., 2017; Krippendorff, 2013).

4. THE FUTURE FOR IFRS FOR SMES?

This last section answers the question, “What is the future in the IFRS for SMEs literature?” adapted from Dumay et al. (2016). Because IFRS for SMEs is a relatively new standard, which has not been studied in all aspects, academics in their work offer research directions and questions that could be studied and explored.

In the our sample, we found as future research directions, the following benchmarks: the applicability of each section of the standard, the attitude of SMEs when switching to IFRS for SMEs at microeconomic level, the political and normative perspective of adopting the standard and its effects (Albu et al., 2010), the quality evaluation of IFRS for SMEs (Chand et al., 2015), macroeconomic dimensions, determinants of adoption and economic consequences on SMEs (Kaya & Koch, 2015; Sellami & Gafsi, 2018), costs and benefits of implementing standards (Albu et al., 2013; Albu & Albu, 2012; Girbina et al., 2010; Litjens et al., 2012; Masca et al., 2010; Strouhal, 2012), adapting standards from the perspectives of professional accountants, auditors or other stakeholders (Aboagye-Otchere & Agbeibor, 2012; Mawutor et al., 2019), the usefulness and challenges of the principles of recognition, measurement, disclosure and policy options accounting policy within the standards (Aboagye-Otchere & Agbeibor, 2012; Mawutor et al., 2019), measuring accounting convergence (Girbina et al., 2012), the implications of adopting IFRS for SMEs on the accounting profession (Hussain et al., 2012), differences of opinion of jurisdictions that have adopted standards (Uyar & Güngörmüş, 2013), studying the existence of a relationship between the size of a company and the effectiveness of the IFRS adoption process (Adetula, Owolabi, & Onyinye, 2014), the role of institutional characteristics of countries to identify the most appropriate convergence mechanisms (Albu & Albu , 2012), the position of regulators and strategies of professional bodies (Albu & Albu, 2012), the effects of the implementation of IFRS for SMEs on the lending decision (Mamdouh, 2015).

5. CONCLUSIONS

Analyzing the first criterion (A) Year, the highest number of cited articles, 13 articles per year, were written in 2012, representing 14% of the analyzed sample. Following the analysis of the second criterion (B) Type of authors, we could observe that 94% of the articles were written only by academics. The remaining 6% is achieved in collaboration with consultants or practitioners. For the third criterion analyzed, (C) Location, we found a total of 62 countries, of which the most studied countries were Romania in 15% of the articles and the Czech Republic in 9%. For the fourth criterion (D) Focus of literature, we found seven attributes and the most studied was (D4) Adoption and implementation of IFRS for SMEs in 58 papers. This topic was the primary concern of the authors because it was studied from several perspectives, such as from stakeholders' point of view, the level reached after harmonization with a national standard or the link between adoption and the quality of accounting information. For the last criterion (E) Research methods, it turned out that the most used research method was (E3) Content analysis or historical analysis. This attribute was used in 25 papers, where authors have chosen to analyze the content of the standard or institutional resources about it.

Finally, we conclude that SLR is a method that has many advantages in developing a literature review, allowing an in-depth and objective analysis, given a lot of essential criteria that a traditional review of literature neglects, such as literature analysis protocol, article impact analysis, analytical framework, data coding, the development of research critiques and future directions.

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EARNINGS MANAGEMENT AND THE ASYMMETRY IN DISTRIBUTION OF EARNINGS: SLOVAK EVIDENCE

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Abstract
Businesses manage results to avoid low losses and low profits. Results confirm significant anomalies. Analysts are much more likely to predict zero revenue than their firms actually achieve and analysts are unable to consistently identify specific firms that apply such techniques to prevent this. One of the means by which profits can be managed is reserves and the release of unjustified reserves. As information on the reason for the release of provisions (due to their use or due to their unfoundedness) is not provided, they are broken down in financial statements.
Balanced policy applied during the accounting period and in the preparation of financial statements, the company's management significantly affects the content, structure and explanatory power (information function) of the accountant statements. The entity's balance sheet policy has two basic objectives – Influencing external users of financial statement information in making their decisions (related to accounting policy) and income tax optimization (related to tax policy).
In this article we tested whether there is a significant share of high losses in the transition from profit in one year to loss in the second year and that companies in a given sector try to keep the ROI at the average level of the given sector and when there is a loss, the companies report the loss already in the proper amount. Several authors found in their analyzes that this ceased to apply but we found out that in the Slovak environment, this statement is valid for approximately 60% of companies.

Keywords: *annual report, earnings management, returns on investment*

1. INTRODUCTION

As defined in International Financial Reporting Standards, “financial statements are a structured representation of the financial position and financial performance of an entity” (Pakšiová, & Janhuba 2012). The objective of the general purpose of financial statements is to provide information to a wide range of users in making economic decisions. Financial statements also show the results of a management´s stewardship with the resources entrusted to them (Kurnaz et al., 2010). Misstatements arising from fraudulent financial reporting are intentional misstatements or disclosures in financial statements designed to deceive financial statement users (Ondrušová, 2011).

Earnings management examination is a methodology for resolving fraud allegations from inception to disposition. More specifically, earnings management examination involves obtaining evidence and taking statements, writing reports, testifying to findings and assisting in detection and the prevention of earnings management.

Empirical studies provide evidence of existing management earnings techniques that can be detected by analyzing financial statements (Andrejovská, & Banociová, 2013). Nevertheless, the recent high-profile financial reporting failures rioted that especially earnings management caused the bankruptcy of companies. On whether this preposition remains valid. Indeed, many authors interpret the step upward trend during the most recent years in accounting, other authors propose arguments on the underlying reason for the apparent erosion in financial statements quality.

There are many reasons why earnings management techniques are used – companies try to get as many investors – by for example; creating the illusion of higher dividends (if the profit is high) or above-average capital appreciation (if they increase the value of assets and / or increase the profit too) and other companies are aimed at calculating the lowest taxes (Parajka, 2015). Despite their objective existence this does not necessarily mean that managements deliberately chose balance sheet policy that will better suit their purposes, on the other hand, the risk of such condition is substantially higher (Kontsyvaya et al., 2019). For these reasons, it is then appropriate to reach beyond indicators of possible distortion.

2. LITERATURE REVIEW

Recent research confirms that a disproportionate amount of companies barely report profits, earnings increases over last year´s earnings, and positive earnings surprises relative to analysts´ expectations.

Lahr (2013) in his paper improved methods developed by Bollen and Pool (2009) and Burgstahler and Dichev (1997) and analyzed earnings of US companies during the period 1976–2010. Earnings data used in this study showed a discontinuity at zero for standardized earnings and earnings changes. Their results show a large drop in loss aversion after 2003.

Prior research confirmed (Cohen et al., 2008) that introduction of Sarbanes-Oxley Act caused that accrual-based earnings management to decline. Based on empirical evidence from Japan (Enomoto, & Yamaguchi, 2017) it was found that discontinuity in the distribution of earnings changes before Sarbanes-Oxley Act was caused by habitual beaters; and after the Sarbanes-Oxley Act implementation habitual beaters to avoid earnings decreases was less prevalent.

Another study analyzed the relationship between corporate bond credit spreads and significant risk warnings in Chinese companies’ annual reports. (Xi, Wang, & Furong, 2019).

Some studies use benchmarks for predicting earnings management. In Kent, Rutledge paper (2017) have used different approaches to identify whether earnings benchmarks are an indicator for earnings management in the Australian market and their results confirm and provide evidence of earnings manipulation around small positive earnings benchmarks. However that does not identify any evidence that the positive earnings change benchmark is a signal for earnings management.

Hansen (2010) study examines whether firms with small losses and small profits have differing levels of discretionary accruals. Companies just above the benchmark have significantly higher discretionary accruals and that provides proof that the difference in the distribution of earnings arises from earnings management. These results are helpful for those who do not find results consistent with earnings management when such results are predicted by theory.

Another study focuses on small and medium enterprises (Chiang et al., 2011) and tested whether these companies perform earnings management (analysis was on a data sample from years 1997 to 2003). This study confirmed by using chi-square tests that in companies which incurred a minor loss, the earnings were manipulated to slight positive earnings.

Christadoulou and Mc Leay (2009) scaled the earnings variable by the magnitude of its own components, restricting the standardized range to (-1,1). In their paper they argue against the hypothesis of distribution, which is smooth in the region around zero, and instead expect an inherent asymmetry in profit and losses. They conclude that wrong statements are usually used in literature and that there are both smaller profit observations and fewer small loss observations than expected.

Dechow, Richardson and Tuna (2003) analyzed whether the boosting of discretionary accruals to report a small profit is a reasonable explanation for the statement that too few companies report small losses and too many companies report small profits. Based on their results we can say that both groups (small profit and small loss companies have similar levels of discretionary accruals and similar proportions of positive discretionary accrual companies.

Monte Carlo simulations were used in a study done by Garrod, Pirkovic and Valentincic (2005) on a sample of 5000 observations. Based on this the hypothesis of continuity for distribution functions with jumps is rejected whilst for continuous distributions it is not.

A study made by Gore, Pope, Singh (2007) examined earnings management before and after the issuance of FRS3 on a large sample of UK companies and provided new evidence on discontinuities in the distribution of reported earnings. They confirmed the distribution of earnings does not reflect the unusually high frequencies of small surpluses and unusually low frequencies of small deficits before and after discretionary working capital accruals.

A study that analyzed British and French companies (Halaoua, Hamdi, & Mejri, 2016) found out that the size of the companies and corporate governance structure have a positive effect on earnings management. Earnings management is more prevalent in British companies.

Jacob and Jorgensen (2007) investigated earnings management distribution in fiscal year earnings by aggregating quarterly earnings over annual periods and comparing them with fiscal year earnings.

Jiang (2008) investigates whether beating these three earnings benchmarks reduces a firm´s cost of debt and also investigates under what conditions. The study identifies a significant benefit of beating benchmarks reducing the cost of debt and shows the importance of beating the various earnings benchmarks is different in the debt market than for equity markets. The study provides the first evidence of a discontinuous relation between credit ratings and earnings information around the three benchmarks.

3. METHODOLOGY AND DATA

The objective of this paper is to examine whether earnings management methods were used by companies in Slovak republic by analyzing their financial statements for the period 2011–2018. According to the objective of this paper we proceeded as follows:

- Analyzed available data,
- Created a hypothesis,
- Tested the hypothesis,
- Refined and amended the hypothesis.

Tools used for examination of earnings management existence were used to analyze financial statements data. The purpose of earnings management examination is to prove or disprove the legal elements of the offence.

The paper examines the following hypotheses:

H1: There is a significant share of companies which report high losses in the transition from profit in one year to loss in the second year.

H2: The companies in a given sector try to keep the ROI at the average level of the given sector and when there is a loss, the companies report the loss in the proper amount.

The sample includes all Slovak companies' data for years from 2011 to 2018 obtained from the www.registeruz.sk database with financial statements.

Table 1. Research sample

Year	No. of financial statements
2018	219173
2017	208228
2016	198414
2015	190486
2014	186348
2013	166269
2012	90451
2011	96535

Source: Own processing

We analyse earnings management from actual reported annual earnings. We calculate ROI (return on investment – ratio calculated as a share of profit or loss and equity) of companies to find average of each sector and then we calculate ROI of all companies with profit/loss up to 1000 eur. Last step is to compare ROI of companies with small profits or small losses with average ROI of all companies divided by the sectors.

4. RESULTS AND DISCUSSION

The following table shows 208 228 financial statements for the accounting periods 2017 and 2016. Based on the data in the table, it is clear that the share of companies which show low losses or profits is approximately 20%. Of this number, only 30% of companies reported low losses or profits also in the following year.

Table 2. Number of companies with low losses or profits for years 2016 and 2017

Sector	Year 2016	Year 2017
Automotive industry	30	11
Tourism and gastronomy	2336	844
Transport and logistics	1423	474
Wood and paper	415	143
Electronics	209	71
Energy and mining	99	47
Finance	1051	391
Hazard	30	11
Chemistry	174	68
Information technologies	1892	663
Metal production and metallurgy	609	190
Retail	4193	1686
Media, publishing, and culture	694	228
Property	2647	1070
Clothing and footwear	236	78
Agriculture and forestry	825	357
Food	337	119
Law, consulting, accounting	4181	1657
Sale and maintenance of vehicles	651	222
Design and engineering	1157	397
Advertising	1035	390
Services	3478	1383

Waste treatment	103	44
Mediation	2289	1087
Construction	4465	1415
Engineering	274	99
Education and Training	596	195
Telecommunication	118	47
Wholesale	3034	1339
Government	5	1
Production	174	68
Development and Testing	535	183
Health Service	960	276
Total	40 256	15 254

Source: Own processing

Almost identical results were achieved from the financial statements in all analyzed years 2011–2018. In the following table it was analyzed whether companies in a given sector try to keep the ROI at the average level of the given sector and when there is a loss, the companies report the loss in the proper amount. This hypothesis was also confirmed. As we can see in the following table (processed all annual reports in Slovak Republic for the year 2017). ROI (return on investment – ratio calculated as a share of profit or loss and equity) of all companies with profit/loss up to 1000 eur is close to the total ROI in every sector (the only exception is in the Energy and Mining sector, but there were only a few financial statements available so we classified this exception as insignificant).

Table 3. ROI of Slovak companies for year 2017 classified by sector

Sector	Total ROI	ROI of profit companies	ROI of non-profit companies	ROI of companies with profit/loss up to 1000 €	ROI of companies with profit/loss over 1000 €
Automotive industry	-0,37525777	0,108598177	-1,205846817	-0,370269646	0,001400587
Tourism and gastronomy	-0,656311309	1,086114576	-2,273794635	-0,559990647	-0,002732026
Transport and logistics	-0,830568402	0,22130983	-2,510400874	-0,762487609	0,061854421
Wood and paper	-5,300367125	0,31451486	-14,13598898	-5,287718596	0,001156814
Electronics	-0,10066377	0,206831971	-0,863313188	-0,09915803	-0,010586288
Energy and mining	-0,552186546	0,097270494	-1,736511742	-0,084809691	0,016026382
Finance	-0,444420808	0,285858987	-1,662748219	-0,381269906	-0,003003843
Hazard	-0,06094136	0,182725101	-0,614549196	-0,007187974	0,012941189
Chemistry	0,793328043	1,934851217	-0,849853113	0,852238517	-0,003829382
Information technologies	-0,36283445	0,377266786	-2,080662906	-0,284298095	0,001429957
Metal production and metallurgy	-1,099148939	1,179888429	-6,452200367	-1,024918131	-0,007063753
Retail	-1,116619879	0,612107634	-3,141723853	-0,94461214	0,006392856
Media, publishing, and culture	-0,315539489	0,327584494	-1,549566741	-0,244724952	-0,004783408
Property	-1,873668828	1,867745767	-6,473009368	-1,739214557	0,008967885
Clothing and footwear	-0,891829197	0,157069569	-2,404697783	-0,819549663	-0,002782664
Agriculture and forestry	-1,560926584	0,154036319	-4,444137629	-1,347401188	-0,002882685
Food	3,10489448	9,052481871	-2,646195794	3,306137608	0,01093003
Law, consulting, accounting	-0,509736747	0,462265201	-2,359443736	-0,441432015	-0,014447351

Sale and maintenance of vehicles	-0,505709111	0,784491166	-2,135425782	-0,226641112	0,009354213
Design and engineering	1,230061138	2,272342559	-0,909420027	1,288711513	-0,008483868
Advertising	-0,600476423	0,384526875	-2,24916384	-0,581238223	-0,00342135
Services	-0,660191508	0,278049729	-2,029984469	-0,493762595	0,00144629
Waste treatment	-2,554671678	0,146327044	-7,495087084	-2,435035087	-0,024595564
Mediation	-1,451424711	0,416672283	-3,788922649	-1,190726138	0,036689171
Construction	-0,718814214	0,364473844	-2,769384494	-0,678345628	-0,015708934
Engineering	0,136674064	0,677987106	-0,969427318	0,143413011	-0,023417082
Education and Training	-0,687410307	0,407557941	-2,552628999	-0,600762085	-0,0300309
Telecommunication	-2,722164636	0,168602262	-10,68987869	-2,693952179	0,00270708
Wholesale	-13,8188935	0,519083059	-35,7734747	-13,59909894	0,013047735
Government	-0,025001824	0,105540562	-0,158044391	-0,006621648	-0,009927062
Production	3,159479667	6,636224617	-0,910390267	3,232687869	-0,00404571
Development and Testing	-0,234063449	0,290424361	-1,24118381	-0,158408058	-0,005380419
Health Service	-0,150130924	0,209663843	-1,365683326	-0,080194302	-0,00590965
Total	-1,77652013	0,70015064	-5,783759656	-1,659617753	0,001929269

Source: Own processing

Almost identical results were achieved from the financial statements in all analyzed years 2011–2018. We found significant trends in both profits and losses, a greater frequency of small losses and profits that meet ROI sector average in every year. And we found a significant trend in alternation of small profits and losses with high ones, so when companies report the loss they report it in significant amount – in every year is this statement valid for approximately 60% of companies in Slovak Republic.

5. CONCLUSIONS

One of the main challenges in identifying earnings asymmetry is that the existence of indicators of earnings distortions do not always necessarily indicate the occurrence of manipulation (intentional bias), but further investigation of these anomalies is needed. In particular, it is important to bear in mind that management may have a natural affinity for riskier or less risky solutions.

Our paper confirms both hypotheses – there is a significant share of companies which report high losses in the transition from profit in one year to loss in the second year in Slovak Republic – about 60%, this was confirmed in every period from 2011 till 2018. Also another hypothesis was confirmed – there are companies in a given sector which try to keep the ROI at the average level of the given sector and when there is a loss, these companies report the loss in the proper amount.

This analysis is important due to fact that analysts can anticipate earnings management due to existence of small losses or small profits and identify the specific companies that engage earnings management.

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THE EFFECTS OF IFRS 16 „LEASES" ADOPTION ON THE BANKING SECTOR: THE CASE OF CREDIT INSTITUTIONS IN ROMANIA

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Abstract
Leasing is a financing instrument commonly used in the banking industry. To carry out their daily operations, credit institutions conclude an important number of lease agreements, mostly for their office spaces (headquarters and branches), vehicles, ATM locations and IT equipment. Due to the criticism received by IAS 17 "Leases" in meeting the needs of the financial statements' users, IASB reconsidered and changed the lease accounting model for lessees by eliminating the distinction between operating and finance leases. The aim of this paper is to evaluate the effect of the new lease accounting principles on the financial statements and the key financial indicators of Romanian credit institutions. We have reviewed the 2019 IFRS financial statements prepared by the top fifteen credit institutions in Romania, ranked upon their net assets value, identified the relevant accounting policies for the lease agreements and assessed the financial impact at individual level. The results obtained are compared among the credit institutions included in the sample. Furthermore, the impact on the independent auditor's report was analyzed. This paper contributes to the enrichment of the IFRS literature in the financial services sector, which is currently limited, both at European and national level, and can be used as a benchmark instrument, providing valuable insights to representatives of the academic environment and professionals in the banking sector.

Keywords: *capitalization, credit institution, IFRS 16, lease accounting, operating lease*

1. INTRODUCTION

In January 2016, the International Accounting Standard Board ("IASB") issued the International Financial Reporting Standard ("IFRS") 16 Leases ("IFRS 16") and changed completely the lease accounting for lessees. The standard is effective for annual reporting periods beginning on or after 1 January 2019, with early application permitted. The US accounting standard-setter, the Financial Accounting Standards Board ("FASB"), issued an equivalent standard, the Accounting Standards Codification Topic 842 ("ASC Topic 842"), with similar principles and mandatory application date.
IFRS 16 replaced the guidance in IAS 17 "Leases" ("IAS 17"), while ASC Topic 842 replaced the Accounting Standards Topic 840 ("ASC Topic 840"). The lease accounting models under both IASB and FASB standards were inspired from the Statement of Financial Accounting Standards 13 ("SFAS 13"), which was introduced in the US as early as 1976.

The SFAC 13 and IAS 17 models have received severe criticism by academics (Reither, 1998; Duke et al., 2009), practitioners (AICPA, 1994) and financial statements users (Beattie, Goodacre, & Thomson, 2006; Berry & Robertson, 2006; Barth & Shipper, 2008), all argued that lessees were not recognizing all lease obligations and assets in their balance sheets, which lead to a lack of comparability between financial statements. The US Securities and Exchange Commission (2005) estimated that the US public entities may have approximately US$1.25 trillion of off-balance sheet leases. Berry and Robertson (2006) indicated that foreign bankers active in the UK consider that the most important aspect that can enhance the published accounting information is the incorporation of off-balance sheet financing in the balance sheet. Barth and Shipper (2008) considered that recognition of operating leases in the balance sheet would capture the underlying economics and would increase transparency and thereby comparability. Duke et al. (2009) stated that entities enjoyed the benefits of operating leases, since both leased assets and liabilities were kept off-balance sheet, with only footnote disclosures of future lease obligations. Lindsey (2006) indicated that investors consider the operating lease liabilities as real liabilities, and that market participants price them differently from finance leases. Furthermore, studies of Lim et al. (2003) and Sengupta et al. (2011) revealed that, for credit investors, operating leases not disclosed in balance sheets are incorporated into debt ratings and bond yields.

Given the criticism received by the lease accounting model, FASB and IASB initiated a joint project to develop a new approach to lease accounting that requires a lessee to recognize assets and liabilities for the rights and obligations deriving from lease contracts. IASB (2016) considered that, this approach would result in a more faithful representation of the assets and liabilities of the lessees and that, together with enhanced disclosures, would provide greater transparency of the financial leverage and capital employed. As a result of this project, both standard-setters reached similar conclusions and decided that a lessee should be required to recognize assets and liabilities in their balance sheets for all leases (with limited exceptions). Furthermore, same approach was adopted for lease liabilities measurement, accounting for leases that were formerly classified as finance leases. In addition, both Boards decided not to substantially change lessor accounting.

Several studies have analysed the potential effects that operating leases capitalisation would have on the financial statements and financial ratios of entities operating in multiple industries. All these studies were carried out before the date IFRS 16 entered into force. Most of them focused on estimating the effects for listed entities from different jurisdiction in the European Union, operating in a wide range of industries. In the majority of cases, credit institutions were excluded from the sample, as a common practice in the accounting literature given the different interpretation of financial ratios across industries. Based on the studies reviewed, it has been identified that retail goods and services, aerospace, telecommunication and automotive would be the most affected industries by the IFRS 16 transition (Fito et al., 2013; PricewaterhouseCoopers, 2016; IASB, 2016; Europe Economics, 2017; Zamora-Ramirez & Moralez-Diaz, 2018; Magli et al., 2018; Pardo & Giner, 2018; Pardo et al., 2018). On the other hand, the ex-ante studies which also envisaged credit institutions, revealed that the effect of IFRS 16 adoption on the financial statements and key financial ratios would not be significant (PricewaterhouseCoopers, 2016; European Banking Authority, 2018; EY, 2018; Zamora-Ramirez & Moralez-Diaz, 2018; Magli et al., 2018). Based on the literature review conducted, as of the date of this paper, there are no empirical studies conducted on the effect of IFRS 16 adoption of the credit institutions (neither ex-ante, nor ex-post implementation).

In this context, the purpose of this paper is to determine the impact of operating lease capitalization on the key financial ratios of Romanian credit institutions and assess its overall significance at financial statements level. Furthermore, the audit reports issued by the external auditors were reviewed with the aim of identifying whether the new lease accounting model and related balance sheet items recognized by the credit institutions are considered as key audit matters.

This paper contributes to the enrichment of the IFRS literature in the financial services sector and can be used as a benchmark analysis, providing valuable insights to both, representatives of the academic environment and professionals in the banking sector. The remainder of this paper is organized as follows: Section 2 includes the literature review and the hypothesis development, while Section 3 describes the main changes brought under the new lease accounting model. The methodology applied to conduct the study is explained in Section 4, while Section 5 is dedicated to the presentation of the results obtained and related discussion. The final section of this paper is dedicated to overall conclusions.

2. LITERATURE REVIEW

The capitalization of lease contracts has always been subject to controversy. Over time, several studies have been conducted on this topic, before and after the release of the proposed amendments to the lease accounting models under ASC Topic 842 and IAS 17.

One of the first analysis on leases capitalization was conducted by Nelson (1963) at a time when no rules existed in this respect. The research showed that financial ratios were negatively affected by lease contracts capitalization. This study was followed by works on the impact on finance lease capitalization (Imhoff & Thomas, 1988) and later research which addressed the operating lease capitalization, as follows: in US, Imhoff, Lipe & Wright, 1993; Mulford & Gram, 2007; in the UK, Beattie, Goodacre, & Thomson, 2006; Goodacre, 2003; in New Zealand, Bennet & Bradbury, 2003; in Canada, Durocher, 2008; in Germany, Fulbier, Silva & Pferdehirt, 2008; in Spain, Fito, Moya & Orgaz, 2013; Barral, Cordobes & Ramirez, 2014, Gill de Albornoz, Rusanescu & Cabedo, 2017; Moralez-Diaz & Zamora-Ramirez, 2018; Giner, Merello & Pardo, 2019; Pardo & Giner, 2018; in Italy, Magli, 2018; in Australia, Bazley, Brown & Izan, 1985; Wong & Joshi, 2015; in Japan, Kusano, 2018; in Turkey, Ozturk & Sercemeli, 2016; in Brazil, Arrozio, Gonzales & Silva, 2016; in Kazakhstan, Nurkasheva, Dosmanbetova & Zharylkasinova, 2018; in Indonesia, Nuryani, 2015.

The empirical evidence from these studies generally showed that lease capitalization affects the key financial ratios, particularly those of the balance sheet, especially the leverage indicator, as well as some profitability ratios. However, researchers noted that the impact depends on several factors, such as sample included, activity sector, geographical area. Akbulut (2017) conducted a literature survey of the empirical papers published during 2000–2015 on the effects of operating leases capitalization on accounting ratios and financial statements. The results indicated that there is no common agreement among the researchers. However, the changes of lease accounting and the constructive capitalization of operating leases would mostly influence the financial statements and the key accounting ratios.

Based on the review of the above-mentioned studies, it has been identified that, in the accounting literature, there are two methodologies used to analyze the capitalization of off-balance sheet leases, namely, the constructive capitalization and the factor methods. The constructive capitalization method was developed by Imhoff, Lipe and Wright (1991) and it is the most complex method to estimate assets and liabilities but also the most used in the accounting literature. It requires a number of hypotheses to be applied to determine the minimum lease payments, the remaining useful life of the lease, the tax rate and the discount rate. On the other hand, the factor method is simpler and is widely used the rating agencies to estimate the entities' debt that arises from off-balance sheet leases. This method implies multiplying the current lease expense by a certain multiple, which is different depending on the activity sector. The result is an estimation of the present value of total future minimum lease payments. This method is less used in the accounting literature.

Following the literature review conducted, it was observed that the results obtained following the application of the two methods are similar in the sense that they indicated the same effect on the key financial ratios, a positive or a negative one. What is different tough is the magnitude of that respective trend.

Mulford and Gram (2007) conducted a study on retail companies in the US because of their significant reliance on leased facilities, such as stores and warehouses. The sample included 19 entities for which the authors capitalized all active lease contracts and analyzed the impact on several ratios and metrics related to the 2006 financial year. For lease capitalization, the authors used the constructive method. The results indicated a median increase in total assets by 14.6% and a 26.4% increase in total liabilities. In terms of ratios, the analysis revealed a median increase by 22.5% in EBITDA, an increase in the liability to equity ratio by 265%, a decrease of earnings per share by 5.3%, a decrease in return on assets by 1.7% and a decrease in return on equity by 0.6%.

Durocher (2008) analyzed the lease capitalization effect on the 100 largest quoted Canadian companies for 2002 and 2003 financial years. The analysis revealed the following effects on the financial ratios: increase in the debt to assets ratio by 4.02%, decrease in the current ratio by 4.74%, increase in return on assets by 0.72%, decrease in return on equity by 6.64% and a decrease in the earnings per share ratio by 0.03%.

Fülbier et al. (2008) analyzed the effect of lease capitalization for the German market. The sample included 90 entities included in the major German indexes, DAX 30, MDAX and SDAX. The analysis period covered 2003 and 2004 financial years. Similarly, to previous studies, the authors used the constructive capitalization method. However, they contrast their results with an alternative methodology used by Standard & Poor's which applies the factor method. The study focused on the impact on thirteen different ratios, including debt to equity, earnings per share, return on assets and return on equity. The results indicated a median increase in the total non-current assets by 8.5% and a median increase in total liabilities by 17.3%. In terms of ratios, the authors estimated a median increase of 16.1% in debt to equity ratio, a median increase of 2.9% in EBIT, while ratios such as earnings per share, return on assets and return on equity did not incur significant changes. The authors concluded that the factor method could supply comparable results in a low-interest environment and when an entity is capitalizing comparatively short-term lease contracts.

Duke et al. (2009) used the constructive method and estimated the lease capitalization effect on several key ratios for a sample of 366 US entities included in the S&P index. Utilities and banking industries were excluded from the sample. The authors concluded that, in case of capitalizing all lease contracts, the total liabilities would increase by 11.13%. Debt to equity would increase by 13%, while the current ratios would decrease by 6.89%. In terms of profitability, return on assets ratio would decrease by 8.26%.

Fito et al. (2013) simulated the effects of operating lease capitalization on assets, liabilities, equity and related income statement positions for 52 Spanish entities which are listed on the stock exchange. Out of these, 21 are defined as "family firms", while the remaining are "non-family firms". A "family firm" was considered any business with a shareholder who owns more than 25% of the total voting rights and for which the family is the largest owner. The financial institutions were excluded from the sample. The constructive capitalization method was used to conduct the study. The authors analyzed the IFRS financial statements prepared for the period 2008–2010. The results showed that the overall effect of including rented assets on the balance sheet is relevant for family firms. Also, the effect on family firms is stronger than it is on non-family firms. In particular, the impact on leverage ratios and, therefore, on the financial position of family firms is higher compared to the impact on non-family firms, which may lead to unintended and undesirable consequences for debt covenants, capital structure and relative market position. In terms of industries, the highest effect was found in the retail sector.

Nuryani et al. (2015) analyzed the impact of constructive capitalization of operating lease on the financial ratios of 19 entities listed on the Indonesian stock exchange, for the period 2008–2011. The study implied two models: the first model, a multiple linear regression analysis, was used to test the impact of financial constraints, asset value, growth and entity's size on operating lease activity, while the second model tested the impact of capitalization of operating lease on the financial ratios of the selected entities, such as: net profit margin, return on equity, return on assets, total asset turnover, debt to total assets, debt to equity and current ratio. The results revealed that the economic determinants affecting entities decision to choose financing through operating lease finance are the value of owned fixed asset, growth level, and entities size. Furthermore, the study found that constructive capitalization of operating lease significantly affects the financial ratios of the analyzed entities, especially the return on assets, debt to equity, asset turnover and net profit margin.

Wong and Joshi (2015) focused on the Australian quoted entities, using a sample of 107 entities from several different sectors using the constructive capitalization method. The authors identified that ratios such as debt to equity, debt to assets and return on assets would change significantly if lease contracts would have been capitalized in the balance sheet. This was not the case for the return on equity ratio. The results obtained are as follows: total assets would increase by 3.47%, total liabilities would increase by 4.34%, the debt to equity ratio would increase by 31.49%, the debt to assets ratio would increase by 10.11%, while the return on assets would decrease by 15.35%.

Kusano (2018) examined the effects of constructively capitalizing operating leases on credit ratings in Japan. The sample included listed Japanese entities, a total of 2,033 firm-year observations. Banks, securities entities, insurance companies and other financial institutions were excluded. Firstly, the study showed that constructively capitalized operating leases are associated with credit ratings. Secondly, it was found that the associations between operating leases versus finance leases and credit ratings are not substantially different. However, when operating lease disclosures are less reliable, operating leases are not associated with credit ratings and the risk relevance of operating leases is substantially different from that of finance leases. The study reported that the reliability of accounting information has significant effects on the risk relevance of operating leases. The results indicated that a credit rating agency considers operating lease information in determining credit ratings to the extent that this information is reliable.

Zamora-Ramirez and Moralez-Diaz (2018) conducted an empirical analysis in order to estimate the effect of IFRS 16 adoption on the key performance indicators of listed Spanish entities. More specifically, the study focused on the impact on balance sheet, leverage, profitability and solvency ratios. The sample included 101 Spanish entities included in the STOXX Total Market Index, operating in 14 sectors. Out of these entities, only 7 operate in banking and insurance sector. To estimate the effect of operating lease capitalization, the authors applied a methodology similar to the factor method. The results indicated that the value of total assets and total liabilities would increase by a mean of 12.9% and 28.5% respectively. Leverage ratio would increase by 10.2%, while the results obtained for return on asset ratio are not clear. Certain sectors would experience an increase in the return on assets while for others opposite results were obtained. In relation to the institutions operating in banking and insurance industry, the impact would not be significant, the increase in total assets and total liabilities was estimated at below 1%. However, the authors identified as a limitation of their study, the small number of analyzed entities from each sector.

A separate study conducted by Zamora-Ramirez and Moralez-Diaz (2018) envisaged the impact of the decisions made for IFRS 16 implementation on the financial statements. These decisions were divided into two groups, respectively: alternative accounting treatments under IFRS 16 and estimations. The authors analyzed each of these decisions, their effect on financial statements and how companies were expected to address them. The results of the analyses revealed that, in general, to have a lower impact in the liability side, entities should: separate non-lease components from lease components as much as possible, apply the voluntary exceptions for short-term leases and leases of low-value assets, apply the voluntary exception for leases of intangible assets and justify a lease term as short as possible. In terms of transition method, the full retrospective approach would lead to a negative initial equity but to a lower lease expense in the future. However, this method was deemed to be very difficult to apply for entities with high volume of leases due to operational costs.

Pardo et al. (2018) also analyzed the IFRS 16 effect on the financial statements of Spanish listed entities included in the STOXX Total Market index but using the constructive capitalization model. The results indicated an average increase of the assets and liabilities by 4.48% and 11.98%, respectively, significantly lower than the results obtained by Zamora-Ramirez and Moralez-Diaz (2018), who used the factor method. Furthermore, after the adjustment, the largest European companies showed a larger leverage, lower liquidity, and a decrease in their economic profitability ratio (return on assets), although there are industry differences. In addition, the study confirmed an increasing trend in the use of operating leases in the period analyzed despite the regulatory change.

Giner, Merello and Pardo (2019) assessed the impact of operating lease capitalization with dynamic Monte Carlo simulation. The sample comprised entities included in the STOXX All Europe 100 Index at the beginning of 2016. This index includes the 100 largest entities in Europe. However, the authors mentioned that, financial services and insurance companies were excluded from the analysis as a common practice in literature. To evaluate the impact of the accounting change, five financial ratios were selected in order to capture dimensions of the financial position and performance of the selected entities, used also in previous studies: leverage, liability maturity, liquidity, return on assets and return on equity. As opposed to Zamora-Ramirez and Moralez-Diaz (2018), whose study was conducted using the factor model, in this study the authors used the constructive capitalization model. The results obtained supported the idea that, with the exception of the year the new standard is implemented, key financial ratios would not be additionally impacted if the current structure of lease contracts is maintained. In 2019, leverage will increase, the liability maturity and liquidity will decrease, and the impact on profitability ratios will vary. Thus, return on assets will decrease, but return on equity will increase.

Pardo and Giner (2018) conducted an ex-ante analysis of the regulatory impact of non-financial entities that made up the IBEX 35 index in 2014. The authors employed non-parametric tests to examine the effect on certain ratios (solvency, leverage, debt quality, liquidity, return on assets, return on equity), and through a multivariate regression, investigated the business characteristics that explain the variation of EBITDA. The sample included 20 entities and the simulation study was done for the four-year period between 2010 and 2013, inclusive. Consistent with the approach undertaken in similar studies (Giner, Merello and Pardo, 2019; Pardo et al., 2018), financial institutions and insurance companies were excluded from the sample. The results suggested that IFRS 16 would negatively affect the financial metrics, and in particular the non-current asset turnover and debt quality, followed by leverage and return on assets, while return on equity ratio would improve. There are notable industry differences. Entities in the retail goods and retail services industries would be the most affected by the accounting change and would incur the highest increase in EBITDA.

Hladika and Valenta (2018) prepared a case study through which they computed and interpreted the consequences of the application of new lease accounting on the financial statements of a real estate company. The study focuses on the impact on total assets and total liabilities, effect on profit or loss account, return on equity ratio and cash flows. The conclusions reached are convergent with those obtained as a result of similar analyses.

Magli et al. (2018) analyzed the potential impact of the new principles for lease accounting on the financial leverage and financial performance indicators, such as: debt/total assets, EBITDA/revenues and debt/equity. The methodology used in the study was both quantitative and qualitative. The authors analyzed the 2016 IFRS financial statements of 384 entities listed on the Italian stock exchange. Out of these, 113 issuers disclosed information on future commitments from operational lease contracts, including 11 credit institutions. The results of the research indicated that the effects of IFRS 16 adoption could be very different depending on the business sector where the entity operates. A high ratio between the future minimum lease payments and total assets was considered an indicator of a significant impact on the financial statements. As a result of the analyses conducted, the authors concluded that the potentially most affected sector is retail, followed by telecommunications and aerospace. With regards to banking industry, the above-mentioned ratio would be at a low level, of only 0.4%. These results were consistent with those obtained by Zamora-Ramirez and Moralez-Diaz (2018) for the Spanish credit institutions, who estimated an increase in total assets and total liabilities of less than 1%.

From a different perspective, Ron van Kints and Spoor (2018) research focused on the effect on the behavior of financial specialists in deciding on an investment opportunity. The authors addressed the following matters: whether the presentation of lease commitments according to IFRS 16 principles will improve the quality of an investment financing decision and whether there will be a positive influence on the ease of making an investment financing decision. To do this, the authors developed a case study and a post experiment questionnaire, which were analyzed by two groups of 23 individuals each. The results of this research suggested that the IFRS 16 lease accounting change would have a significant positive influence on the quality of investment financing decision-making and more consensus among professionals regarding the treatment of lease obligations.

Also, Giner (2018) conducted a value-relevance study to examine whether as-if capitalized operating lease are priced by market users in a relatively unexplored setting. The sample included Spanish listed entities. The authors employed hand-collected data on operating leases disclosed in the notes to the financial statements to constructively capitalize the assets and liabilities. The results obtained indicated that investors in code-law countries with less developed markets and low enforcement quality did not behave any differently to those in common-law countries that have more developed markets and stricter enforcement policies. Investors equally value recognized debts and operating lease liabilities resulting from information in the notes in retail sectors.

The accounting literature on the IFRS 16 application for credit institutions is limited. As it can be observed from the above-mentioned studies, credit institutions were usually excluded from the analyzed samples due to specifics of the industry and different interpretation of the financial indicators. Only the studies of Zamora-Ramirez and Moralez-Diaz (2018) and Magli et al. (2018) assessed the impact of IFRS 16 adoption for this type of institutions. We broadened the literature review and looked up after the studies conducted by regulators in the banking sector and professional services companies.

In 2016, PricewaterhouseCoopers performed a study on the impact of lease capitalization based on the 2014 IFRS financial statements of 3,199 entities in 51 countries worldwide. The study revealed that credit institutions would record a 6% median increase in debt and EBITDA. The median leverage changed from 1.94 to 1.68, while the median solvency remained stable.

The European Banking Authority (2017) performed a quantitative analysis of the impact of IFRS 16 on a sample of banks in the European Union to understand the impact on common equity tier capital, total capital and leverage ratio. The analysis was based mainly on the information included in the financial statements and Pillar 3 supervisory disclosures. The sample used for the analysis included 65 credit institutions across 19 countries in the European Economic Area. Each country was represented by at least three credit institutions. The sample consisted of different banks in terms of size, business model and risk profile and across most of the EU Member States. The estimated impact from IFRS 16 on own funds and leverage ratios of the credit institutions in the sample is of limited significance. Furthermore, the analysis did not indicate a potential concentration of the estimated impact of IFRS 16 to larger or smaller banks of the sample.

In 2018, Ernst & Young conducted a survey with 36 European banks and insurers, in order to understand their current progress with IFRS 16 implementation, expected costs and operational impacts on the business. The results revealed that almost a third of respondents consider the impact of IFRS 16 material, mostly because of balance sheet gross up (25%) and capital consequences (19%). Furthermore, only 11% of respondents considered changes in the presentation of items in the income statements material to the financial statements as a whole. However, an important limitation for the interpretation of this survey is that the results were not presented separately for credit institutions and insurance companies.

In conclusion, the results of the above studies indicated that the effect of the IFRS 16 adoption on the financial statements and key financial ratios of credit institutions would not be significant. However, the significance threshold can be influenced and vary according to certain factors, such as research method used by the authors, sample size, geographical area, different size of the entities included in the sample. This is the reasoning behind the differences obtained with regards to the magnitude of the impact amongst the reviewed studies. We reiterate that all these studies were performed ex-ante IFRS 16 adoption. As a result of the literature review performed, no ex-post IFRS 16 adoption studies confirming the estimated impact have been identified.

In this context, there are two research questions this study aims to respond:

Research question no. 1: Has the IFRS 16 adoption had a significant impact on the financial statements and key financial indicators of credit institutions?

Research question no. 2: Has the IFRS 16 adoption had an impact on the independent auditor's report?

3. THE NEW LEASE ACCOUNTING MODEL UNDER IFRS 16

IFRS 16 establishes principles for the recognition, measurement, presentation and disclosure of leases, with the objective of ensuring that lessees and lessors provide relevant information that faithfully represents those transactions. (IFRS 16.1). IFRS 16 replaces the following standards and interpretations: IAS 17, IFRIC 4 "Determining whether an Arrangement contains a Lease" ("IFRIC 4"), SIC-15 "Operating Leases – Incentives" and SIC-27 "Evaluating the substance of transactions involving the legal form of a lease.

The scope of IFRS 16 is similar to IAS 17 and includes all contracts that convey the right to use an asset for a period of time in exchange for consideration. However, the definition of a lease is different from IFRIC 4 guidance and might result in some contracts being accounted for differently. Therefore, the IFRS 16 analysis should start by determining if a contract meets the definition of a lease. Many arrangements embed an operating lease into the contract or operating lease contracts included non-lease components. Thus, in order to determine all leases in scope of IFRS 16, it not sufficient to analyze only the rent contracts but also other type of contracts, such as service contracts. Under IAS 17, many entities did not separate the lease and non-lease components from a contract because the accounting for an operating lease and a service arrangement had a similar impact on the financial statements. In contrast to this practice, under the new standard, lessees have to separate the above-mentioned elements as the accounting model changed: operating lease elements should be recognized in the balance sheet, while the non-lease (service) components continue to be recognized as part of the income statement.

Under IFRS 16, the distinction between operating and finance leases is eliminated for lessees, and a new lease asset and a lease liability are recognized for all leases, except for the cases where permitted exemptions are applied. At transition date, lessees should initially recognize a right of use asset and a lease liability based on the discounted payments required under the lease, taking into account the lease term. Initial direct costs and restoration costs are included in the right of use assets value. Lessor accounting does not change and lessors continue to reflect the underlying asset subject to the lease arrangement on the balance sheet for leases classified as operating. For finance lease, the balance sheet reflects a lease receivable and the residual interest, if any.

The key elements of the new accounting model for operating leases are as follows:

- A 'right of use' model replaces the 'risk and rewards' model, thus, lessees are required to recognize in the balance sheet a liability and a corresponding asset at inception of the lease contract (IFRS 16.22).
- All lease liabilities are measured with reference to the estimated lease term, which considers also the period of the extension and termination options included in the contract, in case the lessee is reasonably certain that it will exercise such options (IFRS 16.18).
- Lease payments include fixed payments and variable lease payments that depend on an index or a rate. Variable lease payments that do not depend on an index or a rate are not included in the lease liabilities measurement but are expensed in the income statement as incurred (IFRS 16.27).
- Lease liabilities are computed using the lessee's incremental borrowing rate. This rate is defined as the rate of interest that a lessee would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right of use asset in a similar economic environment (IFRS 16.26 and IFRS 16 Appendix A).
- The standard allows for two exemptions: short term leases and leases of low value assets. Under IFRS 16, lessees can elect not to recognize assets and liabilities for leases with a lease term of 12 months or less. In such cases, a lessee recognizes the lease payments in the income statement on a straight-line basis over the lease term. This exemption must be applied by class of underlying asset. Furthermore, lessees are not required to recognize assets and liabilities for leases of low value assets. According to IASB guidance, an indicative amount of less than USD 5,000 when new as the value of the assets would qualify for this exemption. This exemption is applied on a contract by contract basis (IFRS 16.5 and IFRS 16.6).

The effect of IFRS 16 adoption on the financial position and financial performance varies from one entity to another and across industries. The type and volume of leased assets, the terms and structures of the lease agreements influence the overall impact. The changes brought by the new accounting model affected the commonly used financial ratios and performance metrics, such as return on assets, return on equity, asset turnover, gearing, current ratio. The impact on these ratios for the credit institutions is presented and discussed in the following sections of this paper.

4. METHODOLOGY

To achieve the research objectives, the qualitative research method was used. The sample consists of the top fifteen credit institutions operating in the Romanian banking sector, ranked upon their net assets value as at 31 December 2019. According to the annual report prepared by the National Bank of Romania, as at 31 December 2019, there were 34 credit institutions operating in the Romanian banking sector, out of which 7 of them are branches of foreign credit institutions, whose financial statements are prepared at group level. Starting with 2012, credit institutions in Romania prepare their annual financial statements, both at individual and consolidated level, according to IFRS.

Credit institutions included in the sample had a total market share of 83.86%, as presented in Table no. 1 below. The fourth ranked credit institution in Romania (9.01% market share) is a branch of a foreign banking group and was not required to prepare IFRS financial statements at individual level. Therefore, it was excluded from the sample. This aspect is a limitation of this study because, if included, the sample would have accounted for 92.87% of the total Romanian banking market.

Data necessary to conduct the study was obtained from the 2019 IFRS financial statements and the accompanying independent auditor's report. All this information is publicly available on the official websites of the credit institutions included in the sample. The review of the financial statements, was focused on the applied IFRS 16 accounting policies and the balance sheet and income statement items recognized as a result of their application. All data was manually collected.

Table 1. Credit institutions included in the sample

Credit institution	**Net assets value as at 31 December 2019 (EUR million)**	**Market share as at 31 December 2019**
Credit institution no. 1	18,358	17.72%
Credit institution no. 2	14,950	14.43%
Credit institution no. 3	11,687	11.28%
Credit institution no. 4	9,320	8.99%
Credit institution no. 5	8,971	8.66%
Credit institution no. 6	6,883	6.64%
Credit institution no. 7	3,729	3.60%
Credit institution no. 8	2,773	2.68%
Credit institution no. 9	2,274	2.19%
Credit institution no. 10	1,622	1.57%
Credit institution no. 11	1,391	1.34%
Credit institution no. 12	1,377	1.33%
Credit institution no. 13	1,366	1.32%
Credit institution no. 14	1,343	1.30%
Credit institution no. 15	843	0.81%
Total	**86,887**	**83.86%**

Source: Annual report for 2019 prepared by National Bank of Romania, page 165, available online at https://www.bnr.ro/PublicationDocuments.aspx?icid=3043

To respond to the first research question, five financial ratios were selected to capture the dimensions of the credit institution performance and financial position and which were also used in other studies (European Banking Authority, 2017; PricewaterhouseCoopers, 2016; Zamora-Ramirez and Moralez-Diaz, 2018; Magli et al., 2018), namely:

Table 2. Key financial ratios analyzed

Financial ratio	Computation formula
Increase in total assets	Value of right of use assets as at 1 January 2019/Total assets as at 31 December 2018
Increase in total liabilities	Value of lease liabilities from operating lease contracts as at 1 January 2019/Total liabilities as at 31 December 2018
Regulatory leverage ratio	Tier 1 capital /Total assets
Return on assets ("ROA")	Net income /Total assets
Asset turnover ratio	Total assets/Total liabilities

Source: Prepared by the authors

All fifteen credit institutions included in the sample presented their 2019 financial statements in RON, which is the functional and presentation currency. Therefore, all data used for calculation and presentation purposes was translated in EUR, using the RON/EUR exchange rate from the date relevant for the computations. For better clarity of the information, all data was presented in EUR millions.

To respond to the second research question, the independent auditor's reports were reviewed, with focus on the key audit matters section. Conclusions were drawn based on the information therein.

5. RESULTS AND DISCUSSION

The review of the 2019 IFRS financial statements from an IFRS 16 perspective focused on the transition method applied, selected accounting policies, applied exemptions and classes of leases assets. The analysis conducted revealed that all credit institutions included in the sample applied similar accounting policies for the transition to the new lease accounting model, namely: the simplified transition method, application of new lease accounting policies only for tangible assets, application of both exceptions permitted under the standard, except for the sixth ranked credit institution, which applied only the low value-assets exemption. Furthermore, the operating lease contracts concluded by all these institutions envisaged same asset classes, namely: office spaces, plot of lands, vehicles and IT equipment. The application of similar accounting policies at transition enhanced the comparability between the results obtained by each credit institution.

The effect of IFRS 16 adoption on the balance sheet is presented in Table 3. The computation of the increase in total assets and total liabilities was conducted using the value of the right of use assets and corresponding lease liabilities recognized on 1 January 2019 and the opening balance of total assets and total liabilities as at 1 January 2019.

On one hand, the overall average increase in total assets for the credit institutions included in the sample stands at 0.69%, while the individual increase ranges between 0.23% and 1.17%. On the other hand, the overall average increase in total liabilities is slightly higher, respectively 0.76%, while the individual increase ranges between 0.25% and 1.23%. There are four credit institutions which recorded an increase higher than 1% in both total assets and total liabilities, namely, the fifth, seventh, eleventh and fourteenth ranked. The overall results are consistent with those obtained by Zamora-Ramirez and Moralez-Diaz (2018) and Magli et al. (2018) (increase in assets and liabilities of 0.4% for Spanish institutions, respectively less than 1% for Italian institutions) in the sense that the average increase in both total assets and total liabilities is below 1% and that there are few cases where this threshold is exceed at individual level.

*Table 3. Variation in total assets and total liabilities as a result of IFRS 16 adoption**

Credit institution	**Value of the right of use assets as at 1 January 2019**	**Value of total assets as at 31 December 2018**	**Relative variation in total assets (%)**	**Value of lease liabilities as at 1 January 2019**	**Value of total liabilities as at 31 December 2018**	**Relative variation in total liabilities (%)**
1	99,620	15,892,046	0.63%	99,620	14,302,986	0.70%
2	59,069	14,560,615	0.41%	58,949	12,815,708	0.46%
3	100,158	11,597,451	0.86%	100,158	10,026,361	1.00%
4	38,427	8,908,102	0.43%	36,933	7,932,864	0.47%
5	87,666	8,587,193	1.02%	84,083	7,707,259	1.09%
6	14,344	6,286,659	0.23%	14,305	5,733,244	0.25%
7	42,714	3,635,300	1.17%	37,269	3,259,246	1.14%
8	10,798	2,369,868	0.46%	10,487	2,109,306	0.50%
9	11,756	2,198,810	0.53%	11,300	1,927,256	0.59%
10	6,186	1,543,968	0.40%	6,186	1,303,405	0.47%
11	16,747	1,450,925	1.15%	16,747	1,313,353	1.15%
12	2,467	1,216,425	0.20%	2,305	1,045,683	0.22%
13	11,535	1,169,696	0.99%	11,535	1,038,256	1.11%
14	16,228	1,446,481	1.12%	16,228	1,316,122	1.23%
15	7,319	950,061	0.77%	7,319	762,903	0.96%
Average relative variation			**0.69%**			**0.76%**

**all amounts are presented in EUR million*

Source: Analysis of the authors based on the information presented in the annual IFRS financial statements for 2019

To assess if the values of the right of use assets and corresponding lease liabilities recognized at credit institution level are significant, an appropriate comparison threshold has been searched for in the IFRS and the International Standards on Auditing ("ISA"). Based on the research conducted, it was identified that IFRS do not define neither the concept of "materiality" nor "significance", the Management of each entity is responsible to assess what is material or significant for the entity given the specifics of its activities and operating environment. However, from an external auditor's perspective, different circumstances apply. With regards to ISA, it was identified that the ISA 230 "Materiality in planning and performing an audit" provides examples of benchmarks that may be appropriate, depending on the circumstances of an entity, to determine materiality that will be used during the audit engagement. Such benchmarks include categories of reported income, such as profit before tax, total revenue, gross profit and total expenses, total equity or net asset value. The standard mentions that profit before tax from continuing operations is often used for profit-oriented entities.

Based on the review of the independent auditor's report, it was identified that, for two of the ten credit institutions included in the sample, the external auditor presented the materiality threshold used during the audit engagement, together with a description of the computation basis. The materiality was determined as 5% of the profit before tax. The auditor motivated his choice by the fact that this is the most commonly used indicator by the financial statement users when assessing a credit institution's performance. Therefore, such benchmark was used to determine whether, from an external audit perspective, the value of the right of use assets and lease liabilities recorded as a result of IFRS 16 adoption are significant at credit institution level. The results of the analysis revealed that, in all cases, external auditors might consider these balance sheet items material.

*Table 4. Determining materiality of the assets and liabilities recognized as at IFRS 16 transition date**

Credit institution	**Value of the right of use assets as at 1 January 2019**	**Value of lease liabilities as at 1 January 2019**	**Profit before tax as at 31 December 2018**	**5% of profit before tax as at 31 December 2018 (in module)**	**Right of use assets assessed as material? (Yes/No)**	**Lease liabilities assessed as material? (Yes/No)**
1	99,620	99,620	352,161	17,608	Yes	Yes
2	59,069	58,949	255,270	12,764	Yes	Yes
3	100,158	100,158	391,851	19,593	Yes	Yes
4	38,427	36,933	138,540	6,927	Yes	Yes
5	87,666	84,083	225,361	11,268	Yes	Yes
6	14,344	14,305	92,835	4,642	Yes	Yes
7	42,714	37,269	24,095	1,205	Yes	Yes
8	10,798	10,487	9,345	467	Yes	Yes
9	11,756	11,300	28,348	1,417	Yes	Yes
10	6,186	6,186	28,974	1,449	Yes	Yes
11	16,747	16,747	8,449	422	Yes	Yes
12	2,467	2,305	4,599	230	Yes	Yes
13	11,535	11,535	23,762	1,188	Yes	Yes
14	16,228	16,228	-2,983	149	Yes	Yes
15	7,319	7,319	13,435	672	Yes	Yes

**all amounts are presented in EUR million*

Source: Analysis of the authors based on the information presented in the annual IFRS financial statements for 2019

A second analysis envisaged the effect of IFRS 16 adoption on the leverage ratio. The results obtained are presented in Table no. 5 below. The leverage ratio was computed based on the guidance provided by the Basel Committee. The computation formula is different from the commonly used methods, namely the ratio between total liabilities and total assets, as it encompasses the Tier 1 used for the calculation of capital adequacy ratios. The regulatory framework and different applicability and interpretation of specific ratios, such as leverage, in the banking sector is one of the reasons for which credit institutions are usually excluded from the research studies in the accounting literature. The analysis performed revealed that the level of the regulatory leverage ratio remained constant following the recognition of the right of use assets deriving from operating lease contracts for all credit institutions included in the sample. Only the third, fifth, seventh and fourteenth ranked credit institutions incurred a slight increase of 0.01 as at 1 January 2019 compared to 31 December 2018. Therefore, it was concluded that the effect of IFRS 16 adoption on the regulatory leverage ratio is not significant.

*Table 5. Variation of leverage ratio as a result of IFRS 16 adoption**

Credit institution	Value of the right of use assets as at 1 January 2019	Value of total assets as at 31 December 2018	Value of Tier 1 capital as at 31 December 2018	Regulatory leverage ratio as at 1 January 2019	Regulatory leverage ratio as at 31 December 2018
1	99,620	15,892,046	1,495,412	0.09	0.09
2	59,069	14,560,615	1,389,005	0.10	0.10
3	100,158	11,597,451	1,571,760	0.14	0.13
4	38,427	8,908,102	810,374	0.09	0.09
5	87,666	8,587,193	823,613	0.10	0.09
6	14,344	6,286,659	412,584	0.07	0.07
7	42,714	3,635,300	345,634	0.10	0.09
8	10,798	2,369,868	251,395	0.11	0.11
9	11,756	2,198,810	264,855	0.12	0.12
10	6,186	1,543,968	171,693	0.11	0.11
11	16,747	1,450,925	121,087	0.08	0.08
12	2,467	1,216,425	105,670	0.09	0.09
13	11,535	1,169,696	128,173	0.11	0.11
14	16,228	1,446,481	108,794	0.08	0.07
15	7,319	950,061	155,922	0.16	0.16

**all amounts are presented in EUR million*

Source: Analysis of the authors based on the information presented in the annual IFRS financial statements for 2019

*Table 6. Variation of ROA and asset turnover ratios as a result of IFRS 16 adoption**

Credit institution	ROA as at 1 January 2019 (%)	ROA as at 31 December 2018 (%)	Variation in ROA (%)	Asset turnover as at 1 January 2019	Asset turnover as at 31 December 2018	Variation in the asset turnover (%)
1	1.63%	1.65%	-0.02%	4.82%	4.85%	-0.03%
2	1.42%	1.43%	-0.01%	5.51%	5.53%	-0.02%
3	2.83%	2.86%	-0.03%	5.46%	5.51%	-0.05%
4	1.32%	1.33%	-0.01%	3.80%	3.81%	-0.01%
5	2.18%	2.20%	-0.02%	6.29%	6.36%	-0.07%
6	1.21%	1.21%	0.00%	3.90%	3.91%	-0.01%
7	1.25%	1.27%	-0.02%	3.39%	3.43%	-0.04%
8	0.24%	0.24%	0.00%	3.15%	3.17%	-0.02%
9	1.09%	1.09%	0.00%	4.16%	4.18%	-0.02%
10	1.57%	1.58%	-0.01%	2.45%	2.46%	-0.01%
11	0.55%	0.55%	0.00%	3.38%	3.42%	-0.04%
12	0.41%	0.41%	0.00%	3.35%	3.35%	-0.01%
13	1.74%	1.76%	-0.02%	4.76%	4.81%	-0.05%
14	-0.42%	-0.42%	0.00%	5.45%	5.51%	-0.06%
15	1.19%	1.20%	-0.01%	4.69%	4.73%	-0.04%

**all amounts are presented in EUR million*

Source: Analysis of the authors based on the information presented in the annual IFRS financial statements for 2019

The impact on ROA and asset turnover ratios is presented in Table no. 6 below. ROA indicates the percentage of profit credit institutions earn in relation to its overall resources. The results of our analysis indicate that the value of the ROA remained relatively constant as a result of the recognition of the right of use assets as at 1 January 2019, recording slight decreases between

0.01% and 0.03%. Same conclusions apply for the asset turnover ratio, which did not record a significant variation (slight decreases between 0.01% and 0.07%).

With regards to the second research question, based on the review of the independent's auditor report, it was identified that, despite the fact that the right of use assets and corresponding lease liabilities might be material to the financial statements as a whole, the computation of these balance sheet items was not included among the key audit matters for none of the credit institutions analyzed. This can be explained by the fact that such computation is not very complex and it encompasses fewer management estimates as compared with other balance sheet items, such as the computation of expected credit losses under IFRS 9 Financial instruments or provisions under IAS 37 Provisions, contingent liabilities and contingent assets.

6. CONCLUSIONS

IFRS 16 requirements eliminated nearly all off-balance sheet accounting for lessees and redefined many commonly used financial metrics such as gearing ratio and EBITDA. Changes to lease accounting standard have a far-reaching impact on lessee's business processes, systems and controls. Given the on-balance sheet accounting for almost all leases, lessees are required significantly more data around their leases than before.

Previous studies conducted on the potential effects of lease capitalization on the financial statements and key financial ratios indicated that the new lease accounting model will have a significant impact mostly on retail goods and services, aerospace, telecommunication and automotive industries. In case of the banking industry, the accounting literature on this topic is limited as few researchers included credit institutions in the analyzed samples. The studies conducted on the banking sector indicated that the effect of operating lease capitalization on the key financial ratios would not be significant.

This study addressed two research questions which envisaged the significance of the impact of lease capitalization on the financial statements and key financial indicators of credit institutions and whether the IFRS 16 adoption had an impact on the independent auditor's report.

Regarding the first research question, it was conducted an ex-ante and ex-post IFRS 16 transition date assessment for five key financial indicators which capture the dimensions of the credit institution performance and financial position and which were used in previous studies conducted by other researchers. The results of the assessment conducted indicated that the selected key financial indicators of the credit institutions analyzed were not significantly affected due to the IFRS 16 adoption. However, an important limitation of this study is that the fourth ranked credit institution from the Romanian banking system is a branch of a foreign financial group and does not prepare IFRS financial statement at individual basis. If this credit institution would have been prepared IFRS financial statements on a stand-alone basis, the analyzed sample would have accounted for 92,87% of the total Romanian banking market.

To respond to the second research question, the audit reports of the independent auditors were reviewed. The assessment conducted on the key financial ratios of credit institutions revealed that the external auditors could find the value of the right of use assets and corresponding lease liabilities as material during their audit engagement. However, the key audit matters from the external auditor's report do not include neither references to the IFRS 16 implementation nor the computation of the right of use assets and lease liabilities. This can be explained by the fact that such computation is not very complex and it encompasses fewer management estimates as compared with other balance sheet items.

This paper contributes to the enrichment of the IFRS literature in the financial services sector and can be used as a benchmark analysis, providing valuable insights to both, representatives of the academic environment and professionals in the banking sector. Based on the literature review conducted, as of the date of this paper, there are no empirical studies conducted on the effect of IFRS 16 adoption on the Romanian credit institutions (neither ex-ante, nor ex-post implementation). Future research directions envisage the analysis of the evolution of the right of use assets and lease liabilities over time, their impact on the financial statements, as well as changes in the accounting policies applied following the transition date.

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BRD Groupe Societe Generale, www.brd.ro
CEC Bank, www.cec.ro
Credit Europe Bank, www.crediteurope.ro
Garanti Bank, www.garantibbva.ro
EximBank, www.eximbank.ro
First Bank, www.firstbank.ro
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Unicredit Bank, www.unicredit.ro

Interdisciplinary Works

INDONESIAN BUSINESS ENVIRONMENT – VARIETIES OF CAPITALISM AND LOCAL CULTURE

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Abstract
This paper focuses on the structure of Indonesian political economy. The main aim is to find out how socio-cultural characteristics of Indonesian society influence and explain typical coordination patterns among the key agents in Indoneisan business environment. It detail, the research aims to: (i) examine Indonesian culture through Hofstede, Trompenaars, and GLOBE Project dimensions of culture; (ii) analyze Indonesian business environment through Varieties of Capitalism (VOC) model as developed by Hall & Soskice (2001); and iii) examine how Indonesian form of capitalism is underpinned by local culture by the use of the above mentioned models. The findings suggest that the case of Indonesia can be presented as a special type of a coordinated market economy with some aspects of a liberal market economy. Although the key modes of coordination are in-group collectivism and particularistic ties, in relationships among different societal groups coordination based on market mechanism and economic efficiency is more prevalent. The analysed evidence also implies that the coordinated market economy patterns are driven by local culture while the liberal market economy coordination patterns are imported from the outside.

Keywords: *business environment, capitalism, culture, Indonesia, varieties of capitalism*

1. INTRODUCTION

Indonesia is a country which is playing an increasingly important role in the regional as well world economic affairs and it is also the fourth most populous country in the world (Statistics Indonesia, 2018). Historically, Indonesia played major role in the integration processes in South-East Asia and the creation of the ASEAN (Association of South-East Asian Countries) and it has gradually emerged into the position of an informal leader in the South-East Asian region. Given the country's economic as well political importance, this paper examines business environment in Indonesia with the focus on the structure of Indonesian political economy and its socio-cultural characteristics, which strongly influence the functioning of local political economy and the relational dynamics among its key agents.
The main aim of this paper is to find out how the structure of Indonesian political economy is underpinned by its main socio-cultural characteristics. To do so, the paper: i) investigates Indonesian socio-cultural characteristics though the lens of Hosfstede (Hosftede, Hofstede, & Minkov, 2010), Trompenaars (Trompenaars & Hampden-Turner, 2012) and GLOBE Project (Brenk, Konrad, & Sabadin, 2004) approaches to culture, ii) looks into Indonesian political economy by the use of varieties of capitalism (henceforth VOC) model as developed by Hall and Soskice (Hall & Soskice, 2001), iii) explains the existing modes of coordination through the above mentioned models.

The main contribution of this research lies in the fact that it examines the relationships among the key components and aspects of Indonesian business environment; specifically, the prevailing coordination modes, key agents in the political economy, and its socio-cultural attributes. So far, these topics have been studied separately, however, to the knowledge of the author, this paper is the first one which brings these components in interaction. This research is also novel in that it studies Indonesian political economy through the VOC model, and at the same time, explains the prevailing coordination patterns through socio-cultural characteristics. This approach is especially relevant since any institutions in local political economy are embedded in domestic socio-cultural environment and in the long run, the establishment or change of institutional structure of political economy which is not in line with local culture results in tensions and problems that hinder the efficiency of local institutions and political-economic processes.

The paper proceeds as follows. Section 2 provides literature review, section 3 briefly outlines the methodology, section 4 analyses Indonesian political economy, and section 5 concludes the paper.

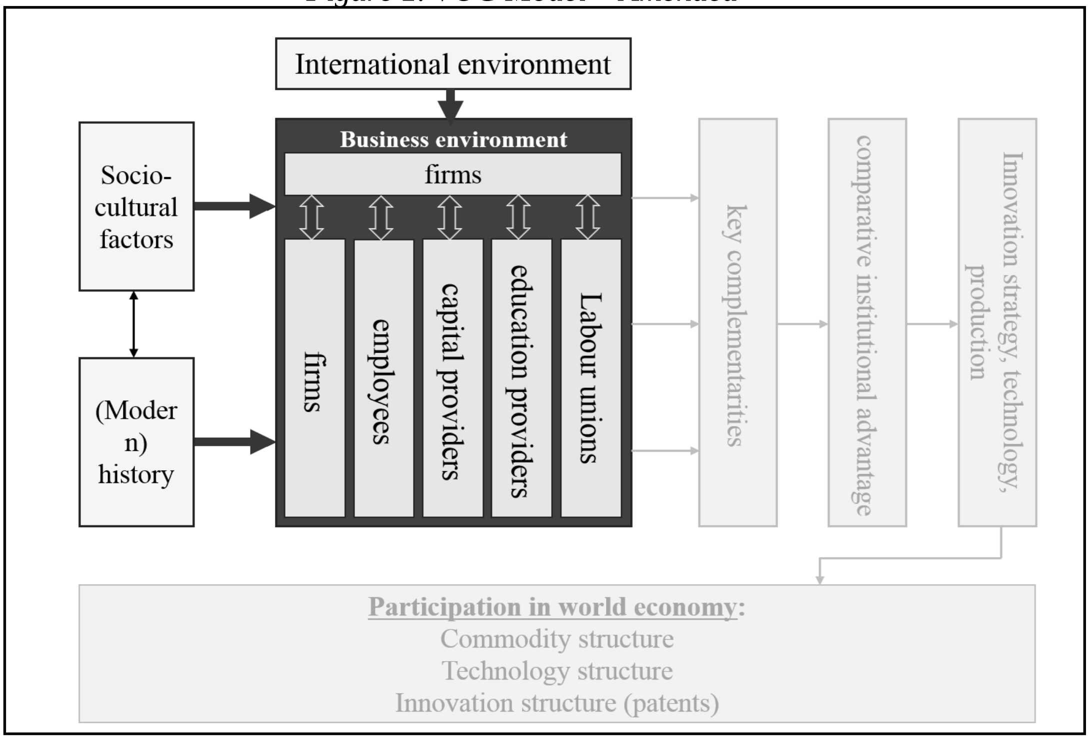
2. LITERATURE REVIEW

Given Indonesia's increasing importance in regional and global political economy, a number of authors have recently shifted their attention to the country. However, literature studying our topic is extremely limited. Current literature can be divided into several groups. First, there is literature which looks into capitalism, Indonesian economy and its reform in a historical perspective (Rosser, 2013; Alatas, 1997; Robinson, 2009; Elson, 2008). This literature focuses on historical data and studies evolution of the investigated phenomena in time. Second, there is literature that examines business and economic issues in relationship to culture. However, such research typically looks in detail into a given phenomenon (Gradiyan, Widyanti, & Iftikar, 2018; Akiko, 2016; Barral, 2017), but does not relate the phenomenon to other fields of study. In our study, we also use the work of authors who examine Indonesian socio-cultural characteristics in different contexts (Bjork, 2004; Ikhsan, Almahendra, & Budiarto, 2017; Susanty, Suprayitno & Jie, 2013; Pekerti & Sendjaya, 2010; Selvarajah, & Meyer, 2017) and we draw the most upon the literature studying Indonesian business and political economy issues in a broader context (Williams, 2017; Robinson, 2004). Finally, so far there has only been one attempt to apply the VOC model to Indonesia (Rosser, 2014). Thus, to the knowledge of the author, this paper is the first one which provides more detailed view of how Indonesian variety of capitalism is underpinned by local culture. Using the available literature, this research aims to explain the relationships between socio-cultural characteristics of Indonesia and modes of coordination prevalent in its political economy. Through that, this paper also sheds more light on the internal functioning and dynamic of relationship inside Indonesian business environment, which is its main contribution to the existing literature.

3. METHODOLOGY

Due to its interdisciplinary nature, this research draws on methodological tools from several different areas of study. First, it builds on the literature regarding varieties and forms of capitalism. As mentioned in the introduction, this research uses the VOC model as developed by Hall and Soskice (Hall & Soskice, 2001) as the key methodological tool. In their Varieties of capitalism approach, the authors study the relationships between company and the key actors in local political economy. Specifically, four different spheres of economy are considered: corporate governance (external coordination with capital providers as well as coordination with employees), industrial relations, inter-company relations and education and training system (Figure 1). The authors further extend their analysis as they explain how relationships of company with actors in the above mentioned spheres bear on technology transfer, company strategy and formation of so-called institutional comparative advantage. In this research, the VOC model of political economy and relationships is used as the main analytical tool. We do not attempt to further talk about the influence on strategy and types of technology innovation; rather, we focus on the explanation of why relationships in Indonesian political economy work in the way they do. We choose the VOC model as due to its focus on relationships, this model makes it possible to capture the influence of societal values and cultures on the structure and functioning of local political economy, which is our main interest.

Figure 1. VOC Model – Amended



Source: Own elaboration based on Hall & Soskice, 2001

Second, any political economy is embedded in socio-cultural environment that strongly shapes its form. To study the impact of societal values and culture, we use the tools known from cultural studies. Namely, we employ the well-known '6D' model of culture by Geert Hofstede (Hosftede, Hofstede, & Minkov, 2010), cultural dimensions as described by GLOBE project (Brenk, Konrad, & Sabadin, 2004) and Trompenaars dimensions of culture ((Trompenaars & Hampden-Turner, 2012). We choose those tools for several reasons. First, all the above mentioned tools are well-established and have proven to be reliable tools to study various aspects of management, communication and behaviour of different actors in economy. Second, Hofstede '6D' model and GLOBE project rely on quantitative analysis and provide indexes for specific cultural dimensions which makes it possible to mutually compare cultures on quantitative rather than purely qualitative basis. Furthermore, through Hofstede and GLOBE project indexes we can also see the extent to which a given characteristic manifests itself in business environment. Due to the distinction between social values and societal practices, GLOBE project also makes it possible to see whether the key principles of organization of Indonesian political economy are internalized or not; in other words, whether any tension which might result in future instability exists. Finally, from Trompenaars we take qualitative description of culture. Here, we consider the distinction between particularistic and universalistic cultures particularly useful as this dimension provides better insight into informal practices in Indonesian business environment.

4. RESULTS

4.1 Societal-cultural Background

Before explaining the prevailing modes of coordination in Indonesian political economy, it is necessary to summarize the key cultural characteristics and values. They are influenced by the fact that large portion of Indonesian population is Muslim and also the fact that a vast number of diverse ethnic groups exist in the country. The Islamic influence is important because Islam as religion tends to emphasize certain cultural characteristics, such as hierarchical societal structures and strong social stratification, ascription of social status based on birth into a social class, collectivism and in-group / out-group concept and lax attitude to time along with fatalism and belief in external forces ruling over people's lives. Another fact worth mentioning is that Indonesia is a former Dutch colony. The Dutch, who strengthened their influence on Indonesian economy in the 18th century, brought with them a value paradigm, which is significantly different from Indonesian indigenous cultures and which is more consistent with liberal market economy (henceforth LBE) types of coordination. Even though these values have not been institutionalized by Indonesian population, they still influence Indonesia's socio-cultural characteristics along with the institutional set-up of Indonesian economy.

Table 1. Socio-Cultural characteristics of Indonesia

Hofstede[1]	**Trompenaars[2]**	**GLOBE Project[3]**		
			Practices	Values
Power distance index (78)	High particularism	Performance orientation	4.41	5.73
Collectivist (14)	High communitarianims	Assertiveness	3.86	4.72
Uncertainty Avoidance (48)	Neutral	Future orientation	3.86	5.7
Masculinity Index (46)	Highly diffuse	Humane orientation	4.69	5.16
Short-term oriented (62)	High ascription	Institutional collectivism	4.54	5.18
Indulgence (38)	Highly synchronic	In-group collectivism	5.68	5.67
	External control	Gender egalitarianism	3.26	3.89
		Power distance	5.18	2.69
		Uncertainty avoidance	4.17	5.23

Source:
[1] Hofstede, Hofstede, & Minkov, 2010
[2] Trompenaars & Hampden-Turner, 2012
[3] Brenk, Konrad, & Sabadin, 2004

Culturally, Indonesia can be characterized as highly power distant and highly collectivist country with moderate tolerance towards uncertainty (Table 1). The medium masculinity index of 46 needs to be broken down into two societal features – Indonesian clear distinction between gender roles and dominance of men in the society drives the index up, which the importance of feminine values such as emphasis put on family and relationships along with overall emotionality drive the index down. Indonesia is a country with moderate future horizon and respect for tradition and the past, showing in the short-term orientation index of 62. Finally, Indonesian society is driven by a number of norms and rules (often of religious origin) that reduce the indulgence index (Hofstede, Hofstede, & Minkov, 2010). From Trompenaars we would especially wish to point out high level of particularism (Trompenaars & Hampden-Turner, 2012). This means that Indonesian culture puts more emphasis on relationships, rather than rules or laws, which in turn influences the way companies coordinate relationships with other economic agents. Indonesian culture is also diffuse and external-oriented with ascribed social status and synchronic attitude to time, characteristics, which are the most relevant for modes of coordination, as explained below. GLOBE project dimensions (Brenk, Konrad,

& Sabadin, 2004) confirm high uncertainty avoidance, power distance and collectivism of Indonesian society, accompanied by medium level of future orientation, and assertiveness, relatively low gender egalitarianism and higher than medium level of performance and humane orientation. GLOBE project societal values also show that the existing tension between societal values and practices; it can be observed that Indonesians would wish for relatively more stable environment and more future orientation, much more equal relationships in the society, more orientation on performance and gender equality and stronger assertiveness. All these values against practices imply that the value paradigm of Indonesian society is gradually shifting from traditional values towards Western values, which are relatively more in line (or less in conflict with) with the principles of current international political economy and LBE coordination modes. It should also be understood that Indonesian collectivism is strongly in-group/out-group based, pointing at more tension existing vis-à-vis outgroups rather than inside an in-group; here we can see the increasing importance of social struggle and democratization movement, also mentioned by previous authors (Akiko, 2016; Fuller, 2007; Törnquist, 2004).

This development and conflict of traditional and imported modern values has recently been emphasized by globalization and the influence of international economic-political environment dominated by Anglo-American economic thought and (neo)liberal rules and principles (Fuller, 2007; Kato, 2014; Williams, 2017). As Indonesia is becoming a regionally important economic player and gradually entering the world markets, it is increasingly more exposed to value systems of its major business partners, and, more importantly, global institutional players such as the World Bank Group, the International Monetary Fund and the World Trade Organization. For all of these, modes of coordination are more consistent with the LBE model. It also must be mentioned that similarly to other countries in South-East and East Asia, Indonesia went through vast economic reform following 1997 Asian Financial Crisis, which basically meant the aim at the implementation of a LBE model of capitalism. The resulting order in Indonesia thus represents a mix of LBE and coordinated market economy (henceforth CME) types of coordination, which is likely to cause tensions in local business environment in the long run.

4.2 Indonesian Capitalism Explained

Based on the existing literature, Indonesian form of capitalism can be described as oligarchic (Rosser, 2014) with prevailing CME coordination forms with continuing shift toward LBE coordination principles. Current variety of capitalism in Indonesia is the product of mixed factors – traditional organizational principles, values and beliefs, the New Order period with strong state guidance and heavy interventionism promoting import-substitution strategy and the reform following 1997 Asian financial crisis.

Table 2. Corporate governance

Features	**Socio-cultural characteristics**
Majority shareholding	Particularism
Concentration of capital and power	Collectivism (in-group collectivism)
Top-down decision-making	Power distance
Ownership by family	Feminine values
Family management	Ascribed culture
Favouritism	External control society
Seniority principle	Fatalism, ascribed culture
Promotion by relationships	Diffuse culture

Source: Own elaboration

In the area of **corporate governance** (Table 2), strong majority shareholder control exists (Hadiz & Robison, 2012; Rosser, 2014; Rusmin, Evans & Hossain, 2012). The majority of shareholders are typically individuals within the same extended family. This still holds, even though Indonesian law requires that in minimum 30% of commissioners in Board of Commissioners be independent. It shows that the Board still tends to make decisions in line with the main shareholders, including the supposedly independent commissioners. Despite the increasing representation of foreign capital and institutional investors in the ownership structure of major Indonesian companies, the traditional decision-making patterns ignoring the interests of stakeholders such as workers, local population, and minority shareholders, still remain. Studies show that this fact decreases the efficiency of companies' operations (Lukviarman, 2004) and that agency issues still remain. To the largest extent, these agency issues show in the relationship between majority and minority groups, rather than foreign vs. local managers. These coordination patterns can be explained by the above mentioned in-group/out-group collectivism and hierarchical structure of Indonesian society. This means that various social classes and different groups of population promote the interests of their in-group against the other groups with cross-relationships among different groups being of more competitive rather than cooperative nature, with mutual cooperation and support happening inside the groups.

Furthermore, Indonesian society is a social-status ascribed and external control society. This means strong fatalism, which is also part of the main religion in Indonesia – Islam – as well as other religions practiced in Indonesia, with the exception of Christianity. Fatalism and ascribed social status and resulting low social mobility mean that higher social status groups (e.g. white collar workers, management, etc.) do not have the motivation or reason to assert the interests of these out-groups. Furthermore, if social status is inherited and the structure of company and society reflect the hierarchy of in-born social status, workers participation in decision-making or minority shareholders or stakeholders interests are not culturally supported. Indonesian sense of hierarchy is based on obedience to senior people, whether by social status or age, and the cultural inappropriateness of disapproval or challenge of their decision and this natural order of things. The fact that the Board of Commissioners, including the independent members, still tends to vote in the same manner as the majority shareholder (Rosser, 2014; Rusmin, Evans & Hossain, 2012) can also be explained by cultural particularism. In safe to assume that in as highly particularistic country as Indonesia, even the independent board members – at least some of them – will have undocumented particularistic relationships with the majority shareholder . Even though literature mentions the increasing importance of hiring qualified and skilled personnel from the outside (Rosser, 2014), changing this specific pattern of coordination is going to be very difficult and is going to take a long time.

As for internal governance practices, Indonesian companies are still strongly paternalistic, with top-down structure, concentration of power and promotion, reward and staffing practices based on particularistic ties (Lukviarman, 2004; Rusmin, Evans & Hossain, 2012; Pekerti & Sendjaya, 2010). Apart from the above, this can also be explained by feminine values held by the society as promoted by Islam. Here, it is interesting to point out that based on GLOBE dimensions, Indonesians themselves wish for more importance of performance over traditional patterns of coordination (GLOBE – Performance Orientation practices 4.41 vs. values 5.73; Brenk, Konrad, & Sabadin, 2004). This could be explained by recent economic progress, which conserves strong social stratification and thus leaves out large, mostly poor parts of the society, that do not participate in the benefits of economic growth. Furthermore, we can also see strong dissatisfaction with concentration of power and top-down decision making in the GLOBE Power Distance index, which is as high as 5.18 for societal practice, but mere 2.69 for societal values (Brenk, Konrad, & Sabadin, 2004). This clearly points at Indonesian society wishing for more equality and involvement in the management and decision-making of companies as well as society as a whole. Similarly, we can also observe the society's wish for more assertiveness (3.86 vs. 4.72; (Brenk, Konrad, & Sabadin, 2004) that could also be interpreted as certain parts of population feeling their interests are not sufficiently promoted.

Table 3. Industrial relations

Features	Socio-cultural characteristics
Lower degree of unionization Difficult to assert workers' rights Fragmentation Government interventionism High portion of irregular or contractual workers	Collectivism – in-group/out-group concept In-group collectivism Fatalism, ascribed culture Power distance External control society

Source: Own elaboration

In the area of **industrial relations** (Table 3), the same patterns of coordination can be observed. Workers are excluded from decision-making and major involvement in management processes, due to hierarchy and social ascription. Culturally, more representation leading to the enhancement of social status is likely to be perceived as the violation of the ascription principle and the natural order of things which decide to what family and social class an individual is born. Behaving and living in line with the social status is the person fate and trying to change that would mean inappropriate behaviour from the viewpoint of major Indonesian religions. These religious and philosophical beliefs make it difficult to establish labour unions or support workers' rights. This is also one of the reasons for labour unions having bad image and reputation within the society (The Jakarta Post, 2017), which needs to be further changed if labour unions are to gain more strength. Furthermore, since the power is concentrated within the hands of elite groups and from their viewpoints, workers belong to an out-group, those who have the authority and means to change the situation do not have the incentive to do so. At the same time, the power of unions and the ability to mutually coordinate and organize themselves has been increasing over the last two decades. However, currently, two most powerful labour union organization are aligned with different political parties, which dilutes their power. This can be again culturally tied to in-group/out-group concept and fragmentation, caused by lesser mutual cooperation of different social groups. The concept of hierarchy and top-down guidance is also consistent with the government interventionism in industrial relations as has been the case of Indonesia over the last few decades (Barral, 2017).

Table 4. Inter-Company relations

Features	Socio-cultural characteristics
Little cooperation Large enterprises – conglomerates – loose ties across industries No links for technology transfer Patrons Source of competitive advantage – ties to powerful political agents or families Ties – based on ethnic or family membership	Collectivism - in-group/out-group concept In-group collectivism Particularism Power distance and seniority Ascription External control

Source: Own elaboration

Similarly to the spheres of coordination mentioned above, **inter-company relations** (Table 4) are equally driven mostly by particularistic ties. We can observe relatively loose coordination happening within a conglomerate (across different industries) as well as among different companies. If closer coordination happens, that one is typical for companies within the same in-group, i.e. with family or friendship ties, or connected by other characteristics bonding them, such as ethnicity, etc. (Susanty, Suprayitno, & Jie, 2013). Relationships among competing companies are only competitive in the situation that the companies do not belong to the same in-group; the same can be also mentioned when talking about horizontal and vertical integration. Small company becoming part of a value chain of a large company or conglomerate is not based on competitive relationship or economic reasons, but rather based on belonging to a specific group or existing ties with important patrons, whether of political or economic nature. This arrangement further supports concentration of power, wealth, capital and investment within the hands of a limited number of group or companies. Also, mutual coordination between large companies on the one hand and small and medium enterprises (henceforth SME) on the other hand is limited (unless the above mentioned ties exist), as large companies and SME are an out-groups and thus do not have the incentive to improve the position of SME. This is again also supported by social ascription and existence of high power distance, even though we believe in this case the in-group/out-group concept play a more significant role. Even though literature mentions LBE types of coordination in the SME sector, out conclusion rather is that where particularistic ties and in-group concepts exits, CME types of coordination based on particularistic ties exists. Where such ties are not present, which in case of Indonesia is a situation rather rare, coordination is more similar to LBE types of coordination.

Table 5. Vocational education and training

Features	**Socio-cultural characteristics**
Low quality Education not aligned with the needs of companies (services rather than manufacturing sector) Involved ministries – lack of cooperation General education rather than VET	Power distance Social status & hierarchy In-group/out-group Particularism

Source: Own elaboration

Indonesian **vocational education and training system** (Table 5) along with the system of general education have seen major changes over the last few decades. Reforms conducted during the time of New Order resulted in very high enrolment rates of basic education and first level of high-school education (Rosser, 2014), however, Indonesian educational system still suffers from major issues. The quality of education is generally perceived as very low with little communication with the industry sector. The knowledge and skills provided by educational institutions thus do not correspond to the needs of private sector (Global Business Indonesia Guide, 2016), even though it can be said they somewhat better correspond to the needs of service, rather than industry sector of economy. On the other hand, it should also be considered that the qualified workforce absorption capacity of the industry sector is limited, as Indonesia is not seen as an industrial country with small technology and industry base. Standard setting in the education sector is also problematic, as two different ministries – the Ministry of Industry and the Ministry of National Education are involved, but they mutually cooperate very little. We again see here in-group/out-group concept playing a role. Furthermore, majority of population still prefers general educational path over vocational education. This is due to the belief that academic path means better opportunities in future. Another cultural feature playing role here is low social mobility, which can only be enhanced by education (rather than e.g. technical competence), even though for lower social classes with superb education a form of a ‘glass ceiling’ exists, as they are not allowed into the highest positions in companies due to their lower social class origin. In addition, vocational education, which, if of a good quality, would better reflect the needs of Indonesian private sector, is not preferred as it is associated with lower classes and low social status in minds of people connected with manual work (Nadir, 2012). Opportunities for better quality education are rather available to higher social classes, as good quality education involves social status and funds for education. The system is thus influenced by power distance and also social status ascription with only minor changes happening recently and limited distribution of quality education or training opportunities across social classes.

5. CONCLUSION

In our paper, we focused on Indonesian political economy and analyzed it through the lens of a VOC model. The key aim of our paper was to see how culture and socio-cultural characteristics of Indonesian society influence coordination among the key actors of domestic business environment. For this purpose, we used the Hofstede, Trompenaars, and GLOBE Project dimensions to culture.

We find that vast majority of relationships among political-economic agents in Indonesia is governed by traditional values, such as collectivism, in-group/out-group concept, social status ascription, belief in external control over human lives, high power distance and high particularism. These modes of coordination are those more typical of coordinated market economies. We also find that where particularistic ties do not exist and in-group collectivism does not apply, relationships are more strongly governed by short-term economic motives. In other words, it can be said that market rules, i.e. modes more typical of liberal market economies, prevail. In this respect, we conclude that even though the period after 1997 Asian Financial Crisis has brought a number of reforms focused on the strengthening of the role of the market and democratization of society, traditional coordination modes are still strongly prevalent. Dynamic changes of society in terms of more equality of different social classes are only happening slowly and gradually, while within social classes traditional structures and values are still dominant.

The results of this research will be beneficial for academics as well as practitioners with interest in Indonesian economy. The topics we study are normally investigated separately, however, very little literature focusing on their mutual interaction exists. Also, we consider the underpinning socio-cultural factors of key importance, as these decide the ability of a company to successfully operate in local environment. In this respect, we consider out study particularly useful for international investors and business partners interested to establish business relationship with or operations in the country.

The main concerns related to our study are especially those of its interdisciplinary nature. It is, therefore, difficult to study in detail all relevant factors that influence socio-economic-political dynamics we investigate. Also, the nature of our study makes it difficult to quantify the phenomena discussed.

In view of the above, it would be worthwhile if future research adds more rigorous statistics-based analysis to the topic. We also believe that our field of study would benefit from research focused in more detail on post-1997 business environment reform and the role of globalization and international institutions in Indonesia. Ideally, such research would also consider socio-cultural dimension of the topic.

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DIGITAL CUSTOMER EXPERIENCE IN FINANCIAL SERVICES

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Abstract
Similarly to other industries, in the financial services industry, customers' expectations are growing exponentially, and thus, it is no more sufficient to offer services based only on the incremental improvements in the existing customer experience. It is not a guarantee of success any more. The objective of this paper is to examine, analyse and critically evaluate the characteristics, behaviour patterns and expectations of digital customers when dealing with the financial services providers. Simultaneously, this paper seeks to address the question of how seriously savvy financial services providers reflect the shift from the Experience Economy to the Transformation Economy in their current business operations. In the relevant scientific literature, the topic is predominantly examined from the perspective of individual scientific disciplines, however creating exceptional and compelling digital customer experience is a complex issue which requires an interdisciplinary approach, including the art of encapsulating the state-of-the-art findings from finances, marketing, management and pedagogical psychology. With few exceptions, the research findings from the current business practice of financial services providers operating in the Czech Republic do not substantiate the theoretical background and business potentials of the Transformation Economy. Only 30% of the analysed financial services providers exploit the maximum potentials of the selected marketing tools enabling the creation of transformational experiences aimed at fulfilling their customers' expectations and achieving desired outcomes. The research findings might help executives and managers in the financial services sector decide on a course of actions to foster innovative approaches in creating a remarkable digital customer transformational experience.

Keywords: *customer experience, digital customer, experience economy, financial services provider, transformation economy*

1. INTRODUCTION

Like many other industries, also the financial services sector is currently undergoing a digital transformation which is changing the mode of operation and ways of delivering customer value. It is almost a continuous challenge since managers are confronted with the changing nature of customers who are ever-better informed, harder to please and less loyal. The traditional focus on delivering high-quality products and excellent service has been the mantra of executives and managers for many decades, and it always represented a solid foundation for strategic thinking. It is almost incomprehensible that, despite the obvious desire to deliver great products and services, this business strategy proven by many years does not seem to deliver the expected results any more.

Marketing and management experts know that the latest development is far from coming 'out of the blue'. They consistently work with marketing and management intelligence on a daily basis and thus they can analyse with precision the latest trends. Besides, scientific literature gave them an early warning signal already in 2011 in the foresighted customer experience framework highlighted and explained by Pine and Gilmore in their monograph *The Experience Economy* (2011) and especially in its updated version *The Experience Economy:*

Competing for Customer Time, Attention, and Money (2019). Translated into thirteen languages, this seminal book explores how savvy companies excel by offering compelling experiences for their customers (Pine & Gilmore, 2019, cover page). The journey from commodities to goods, from goods to services and from services to customer experience is prompted by three aspects: (1) the idea of uniqueness, or a unique selling proposition (USP), (2) the efforts to create a memorable experience and (2) the ‚metamorphosis' of a customer into a digital customer. A quick overview of the entire history of economic progress is illustrated by the the same authors also in their earlier article *Welcome to the Experience Economy*, in which they recapitulated the economic progress using the four-stage evolution of a birthday cake, i.e. from the home-made cake in the agrarian economy to the time-starved 1990s when „[..]parents neither make the birthday cake nor even throw the party. Instead, they spend $100 or more to "outsource" the entire event [..] (Pine & Gilmore, 1998).

Despite the fact that in the second decade of the 20th century 'customer time is still limited' and 'customer attention is still scarce'', many companies are making every effort to engage their customers at every touchpoint following the iconic example of Walt Disney and his theme park. He started with an idea*: "The idea of Disneyland is a simple one. It will be a place for people to find happiness and knowledge. It will be a place for parents and children to share pleasant times in one another's company: a place for teachers and pupils to discover greater ways of understanding and education."* (A Visual History of the Creation of Disneyland | The Work Behind the Work, 2020) and contemplated the future of the whole project: *"We keep moving forward, opening new doors, and doing new things, because we're curious and curiosity keeps leading us down new paths. If you can dream, you can do it. Always remember that this whole thing was started by a mouse."* (A Visual History of the Creation of Disneyland | The Work Behind the Work, 2020)

Actionable advice on *designing innovative ways of adding value to the economic offerings* explored by Pine and Gilmore in the above-mentioned books and real-life implementation of the memorable experience by Walt Disney is transferable to any business sector, not excepting the financial services industry. However, at first, it is important to explore the characteristics, behaviour patterns and expectations of a digital customer generally, and in the financial services sector specifically.

2. DIGITAL CUSTOMER BEHAVIOUR IN THE EXPERIENCE ECONOMY

Digital customers, especially Millennials, Generation Z and the youngest generation, are very different in many aspects from their predecessors, predominantly as a result of technology advancement. Technology influences the way these people learn and acquire information fundamentally. The causality between cognitive skills and economic development was explored by many scientists (Hanushek & Woessmann, 2008, Jamel et al., 2020). Juke and Schaaf in their monograph *A Brief History of the Future of Education: Learning in the Age of Disruption* envisioned cognitive differences between young generations and their predecessors: *"We are beginning to see cognitive differences between the younger generations due in large part to their experience with advanced technologies. Children who are two, three, or four years apart have completely different experiences with technology compared to previous generations. As a result, they think, process information, and communicate differently from past generations"* (Jukes & Schaaf, 2019, p. 25). As things move along so rapidly, nowadays we can hardly imagine the substance and quality of digital customer experience expected by these today's children when they grow up and become digital customers.

Owing to the fact that customer education and cognitive skills are in the focus of attention of business practice as well as academic researchers (Bell, 2008, Hollebeek, 2011, Suh et al., 2015, Bell et al., 2017), it is important to be aware of the core learning attributes of digital generations since the digital learners of today will become digital customers of tomorrow. Jukes and Schaaf examined the digital generations from the viewpoint of their core learning attributes and formulated the following nine core characteristics of digital learners.

"Digital learners

1. *prefer receiving information from multiple, hyperlinked digital sources;*
2. *prefer parallel processing and multitasking;*
3. *prefer processing pictures, sounds, colour, and video before they process text;*
4. *prefer to network and collaborate simultaneously with many others;*
5. *unconsciously read text on a page or screen in a fast pattern;*
6. *prefer just-in-time learning;*
7. *are looking for instant gratification and immediate rewards, as well as simultaneously deferred gratification and delayed rewards;*
8. *are transfluent between digital and real worlds;*
9. *prefer learning that is simultaneously relevant, active, instantly useful, and fun"* (2019, p. 27).

Applying these attributes to the *world of financial services provided by financial services institutions (FSIs),* we can envisage the expectations of digital customers in relation to the desired customer experience. *"They want a fast, seamless, immersive, cross-channel digital experience that satisfies, and even anticipates, their needs. [..] It is clear that FSIs must adapt. It is not enough to provide exceptional experience just for basic online activities (CIO Insights | The Future of Customer Experience in Financial Services | Akamai, 2020)."*

Creating an immersive experience for digital customers in the financial services industry might be a challenge, however, some pre-conditions can make the customer journey more predictable and easier. Brand trust is usually on the top of the list. However, they might be considerable differences between (a) countries, (b) age cohorts and (c) affluence of customers.

In July 2020, the Czech Banking Association published the findings from their research Digitalization and E-banking. The bar graph below (Graph 1) illustrates the respondents' attitudes to the question ***"Which specific financial services would you entrust to any other entity than the bank? / N = 1010.***

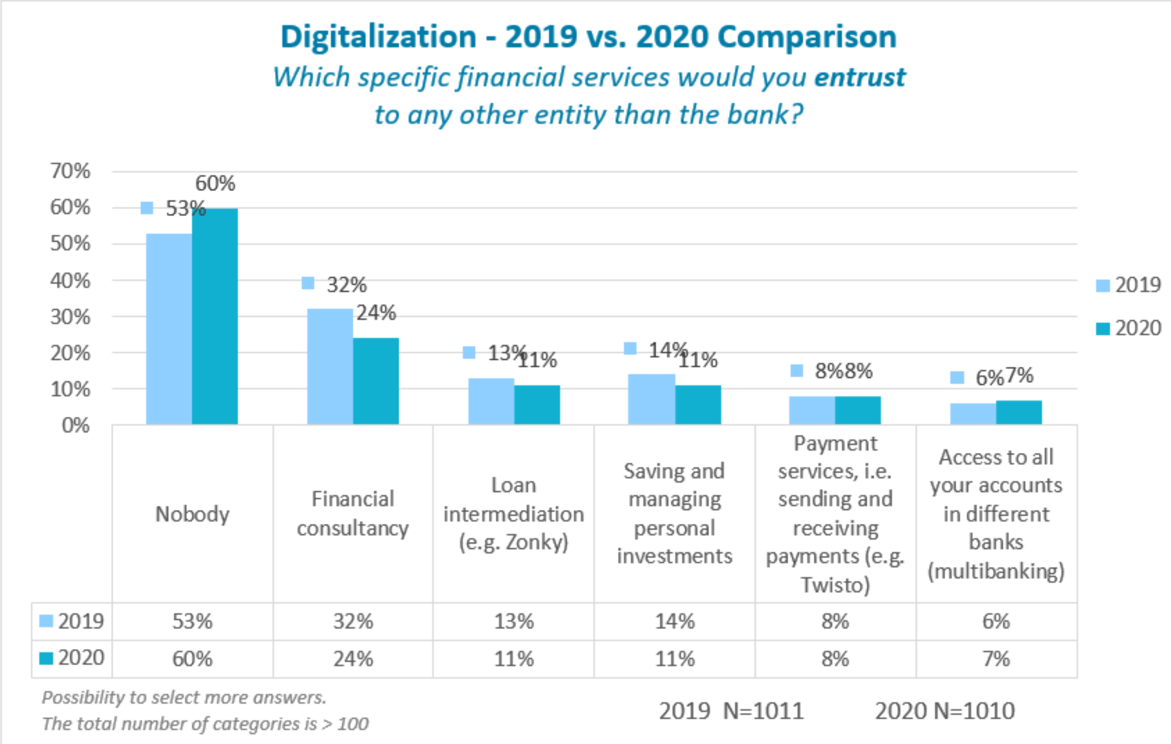
Though the number of the youngest generation Czech respondents who would entrust their finances just to anybody else is 4 x higher than the age cohort of 65+, the trust in banks in the Czech Republic is very high (Česká bankovní asociace, 2020).

According to Forbes, when looking outside traditional financial services providers, *"one finding that may make financial services companies sit up is that less than half of Millennials (46%) see themselves staying with their current financial services companies over the next few years. And about half of affluent Millennials (48%) say they're open to switching to another company offering better products and services"* (Shin, 2015).

In the same research "affluent millennials, 67% of whom are open to products and services from non-financial services brands, compared to 45% for affluent Gen Xers (Shin, 2015)." These are the brands they trust, like Nike, Google, and Apple, that don't typically offer financial services (CIO Insights | The Future of Customer Experience in Financial Services | Akamai, 2020).

However, currently, even in this respect, the situation is changing since customers of certain banks in the Czech Republic can also enjoy e.g. the Apple Pay mobile app today (e.g. Raiffeisen bank).

Figure 1. Czech Banking Association – Survey: Digitalization – 2019 vs. 2020 Comparison



Source: own elaboration based on (Česká bankovní asociace, 2019; Česká bankovní asociace, 2020)

3. DIGITAL CUSTOMER EXPECTATIONS IN THE FINANCIAL SERVICES – AN INTERDISCIPLINARY APPROACH TO A RESEARCH DESIGN

In the financial services industry, digital customers' expectations are high. Technologically savvy generations are becoming the dominant demographic sector. Competition is fierce. Technological advancements are dynamic and difficult to predict. Though the financial services sector belongs among the innovators that implement different artificial intelligence tools into the portfolio of their offerings, to create a truly engaging experience for their customers is far from being easy. *"The reality is that today's engaged consumers – influenced by their daily interactions on social media and other platforms – expect all sites and apps to be high performing and lightning fast (CIO Insights | The Future of Customer Experience in Financial Services* | Akamai, 2020)."

With the aim to identify the current global trends in the consumer behaviour patterns within the financial services industry, Accenture surveyed 47,000 banking and insurance customers across 28 markets in Asia-Pacific, Europe, Latin America, Middle East and Africa, and North America (2019 Global Financial Services Consumer Study | Accenture, 2020). Their research was truly interdisciplinary: the Accenture researchers worked with the *marketing concept of personas*. In their research, we find *pioneers, pragmatics, sceptics and traditionalists* – see Table 1.

Table 1. Buyer personas in the core of customer segmentation in financial services

Personas in Financial Services			
Pioneers **Risk takers, tech-savvy and hungry for innovation**	**Pragmatists** **Ubiquitous, trusting and channel agnostic**	**Skeptics** **Tech-wary, dissatisfied and alienated**	**Traditionalists** **Value human touch, tech-avoiders and losing trust**
Tech-savvy and keen to engage with financial providers using mobile devices. Pioneers are hungry for Innovation in service and channels. They account for 23 percent of respondents.	Also making up 23 percent of the sample, pragmatists see technology as a means to an end rather than a lifelong passion. They are satisfied with the service levels they receive and they expect good value from providers. They are interested in (though a little suspicious of) personalization.	Skeptics are the largest group, accounting for 33 percent of the sample, yet their dissatisfaction with financial providers means they are a challenging persona to engage. More than a third are under 35, making them a long-term opportunity for providers if they can be targeted.	Generally older (55+) than the other personas, traditionalists show levels of engagement and satisfaction with their financial services providers. They are the smallest group from our consumer survey, comprising 21 percent of respondents.

Source: own elaboration based on (2019 Global Financial Services Consumer Study | Accenture, 2019)

Seeking to understand what the customers value, what differentiates them and how they want to engage with financial services providers, the authors identified the following five key findings.

Table 2. Accenture – Key findings

	Key findings	Description
1	**Consumers want integrated propositions addressing core needs.**	Our research reveals that around half of consumers expect financial providers to offer propositions **addressing core needs**, and not only traditional financial services. These propositions typically focus on a particular customer need, such as a complete “mobility proposition” for car buyers that includes different financing, renting and reselling options, as well as access to insurance, maintenance and ancillary services. Other examples include a property-buying solution encompassing a mortgage, home insurance coverage and an additional loan for furnishings and a health proposition that provides wearable devices, points-based rewards for healthy behaviour, or access to wellness services.
2	**Consumers increasingly want a fully personalized offering from their financial providers.**	One in two consumers indicated an interest in **personalized financial advice** from banks that is shaped by their personal circumstances—including analyses of spending habits and advice on how to manage money—while 64 % are interested in insurance premiums that are tied to behaviour (such as driving safely).
3	**Consumers are willing to share data with their providers in return for better advice and more attractive deals.**	For example, they are interested in offers and **perks based on where they shop most often and priority services** such as a fast-track insurance claims settlement.
4	**Consumers want better integration across physical and digital channels.**	More than half of all our survey respondents expressed an appetite for **a true omnichannel banking experience** that would allow them to switch seamlessly between physical and digital channels.
5	**Consumers’ trust in financial institutions is high and increasing.**	Consumers are likely to say that they **trust** their banks and insurers **more than they did 12 months ago**. To maintain this trust, particularly when holding customers ‘personal data, providers should **demonstrate robust security measures** while delivering value-adding insight and personalized services.

Source: own elaboration based on (2019 Global Financial Services Consumer Study | Accenture, 2019)

As one of the most significant parameters is trust, Table 3 shows answers concerning customers' trust in financial services providers divided according to the four types of personas.

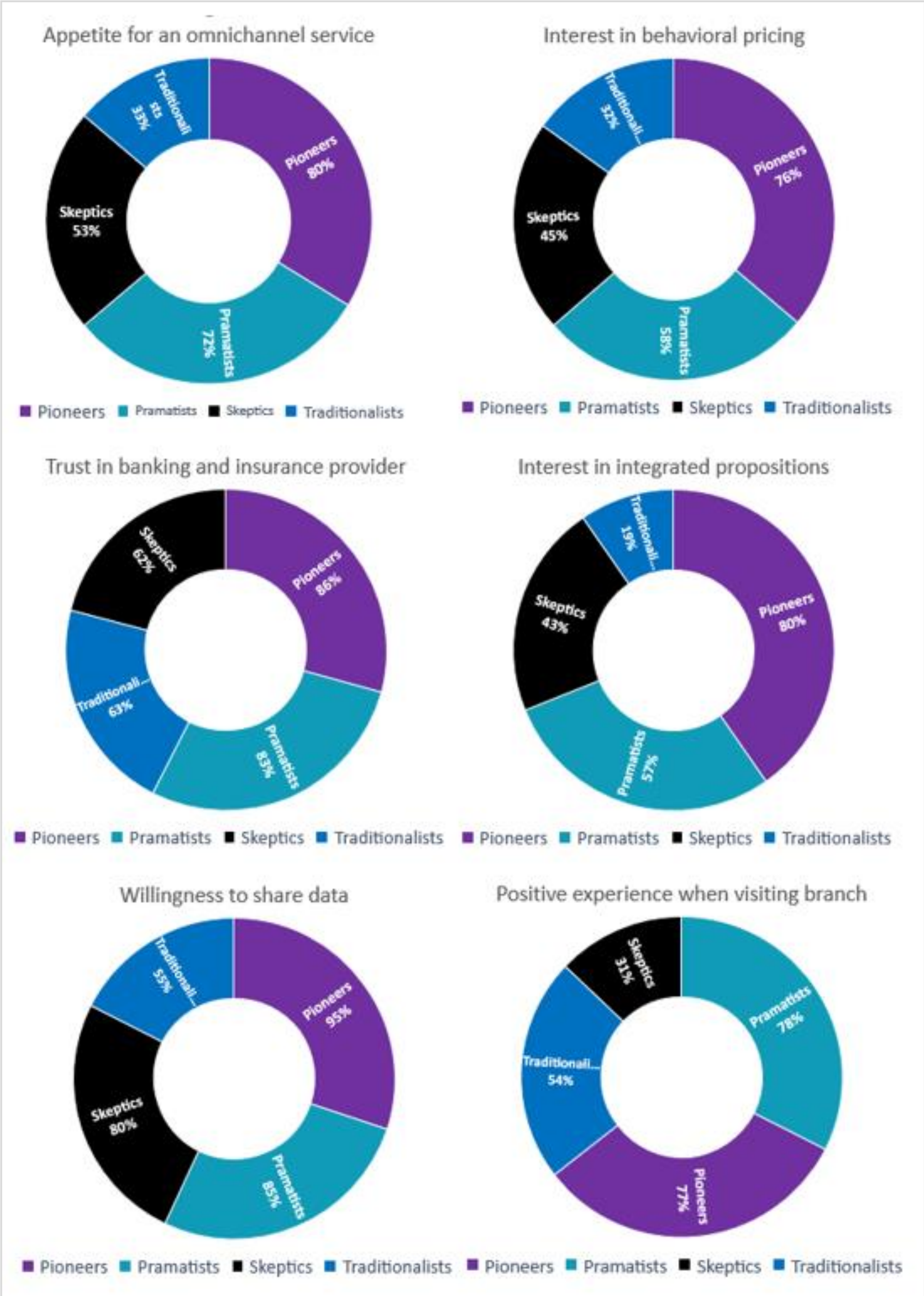
Table 3. Trust and loyalty

Trust and loyalty				
	Pioneers	Pragmatists	Skeptics	Traditionalists
Say the main reason they stay with their bank is that they like it	69 %	74 %	46 %	55 %
Have a positive experience in bank branches	77 %	78 %	31 %	54 %
Trust their bank to look after their long-term financial well-being	88 %	89 %	65 %	69 %
Thurt their insurer to look after their long-term financial well-being	83 %	77 %	59 %	56 %
Thurt non-traditional providers to look after their long-term financial well-being	60 %	34 %	31 %	17 %
Trust their bank less than they did last year	9 %	78 %	18 %	15 %
Trust their insure less than they did last year	10 %	78 %	16 %	12 %

Source: own elaboration based on (2019 Global Financial Services Consumer Study | Accenture, 2019)

The interdisciplinary approach implemented by the authors of this research helps us to identify important finer nuances of how consumers view their financial services providers based on four different types of personas (see Graph 2).

Figure 2. Differences of customer preferences based on personas



Source: own elaboration based on (2019 Global Financial Services Consumer Study | Accenture, 2019)

The fine nuances in the obtained results will enable financial services providers to prepare *a more personalized offer and a more engaging digital customer experience*. The higher the relevancy of such offerings/solutions/customer experience, the higher the chance of retaining customers and achieving a positive impact on economic performance.

Chapter 2 provided valuable innovative insight into customer behaviour, preferences and expectations both at the national and global levels. Selected data offer a brief orientation, however, both surveys are worth studying in detail to get a complete picture.

4. METHODOLOGY, FINDINGS AND DATA INTERPRETATION

The primary web-based research dealing with the use of marketing tools with the potential to to create a transformational experience in the business strategies of selected companies in the CR lies in the core of the methodological part of this paper.

Pine and Gilmore in the updated version of their monograph The Experience Economy: Competing for Customer Time, Attention, and Money (2019) highlight the idea of customer *attention*, i.e. how to engage our customers to "stay with the brand" as long as possible enjoying the time spent. Among the marketing tools which can help us positively influence customer engagement there are *storytelling*, *gamification*, *education-based content* as an added value for customers and *video content* as the preferred way of consuming information.

The research *question how seriously savvy financial services providers reflect the shift from the Experience Economy to the Transformation Economy* can be answered and well documented by the use of selected marketing tools boosting engagement and their implementation in marketing strategies of selected companies (see Table 4 and Table 5).

Table 4. Research design

Research method	observation and document analysis (Hewson, 2015)
Data collection	15–20th August 2020
Time spent	20 working hours
Research sample	10 banks, 3 insurance companies, 1 consumer loans provider
Data source	web portals of selected companies
Research limitation	This survey does not examine the frequency and extent of the use of the selected marketing tools; it focuses on the implementation (YES) /non-implementations (NO) of these tools in the marketing strategies of the selected companies.

Source: own elaboration

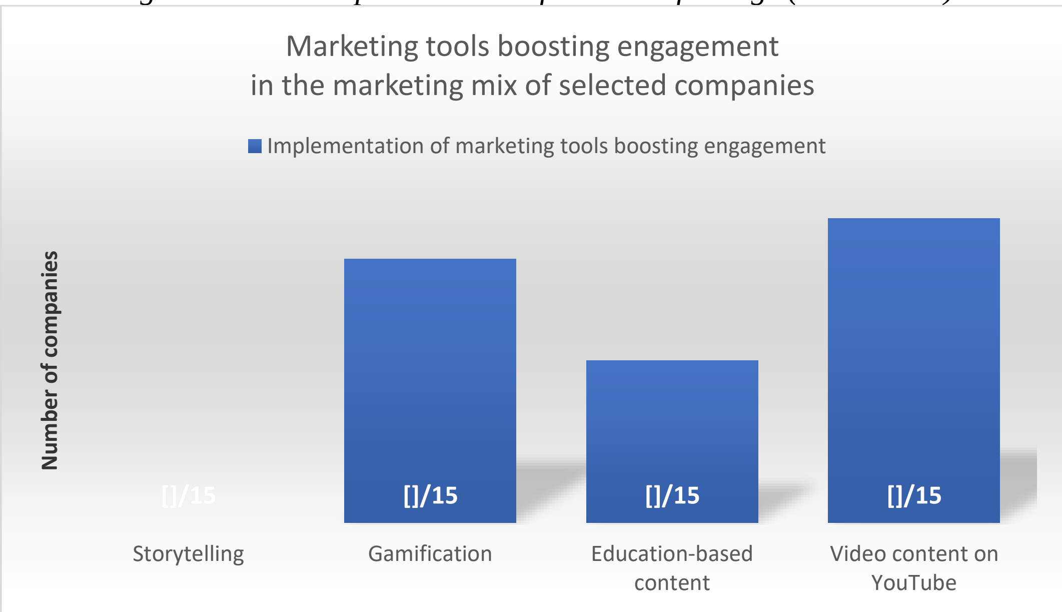
Table 5. The use of marketing tools to boost customer engagement – research data

Company name	Storytelling Technique	Gamification	OWN customer-education web portal/own activities	Video content on YouTube channel
Air Bank	YES	YES	NO	YES
Citibank	NO	NO	NO	YES
Česká spořitelna	YES	YES	YES[1]	YES
ČSOB	YES	YES	YES[2]	YES
Fio banka	NO	YES	YES[3]	YES
Komerční banka	YES	YES	YES[4]	YES
mBank	NO	NO	NO	YES
Moneta	YES	YES	YES[5]	YES
Poštovní spořitelna	NO	YES	NO	YES
Raiffeisenbank	YES	YES	YES[6]	YES
Unicredit bank	YES	YES	NO	YES
Allianz pojišťovna	YES	YES	NO	YES
Direct pojišťovna	YES	YES	NO	YES
Kooperativa pojišťovna	YES	YES	NO	YES
Zonky	YES	YES	YES[7]	YES

Source: own elaboration based on information published on web portals of the financial institutions in CR in 08/2020

[1] Abeceda peněz
[2] Finanční vzdělávání pro školy
[3] Škola investování pro každého
[4] KB rádce
[5] Rozumíme penězům
[6] Zlatka.in
[7] Zonky.times.cz

Figure 3. Visual representation of research findings (see Table 5)



Source: own elaboration based on Table 5

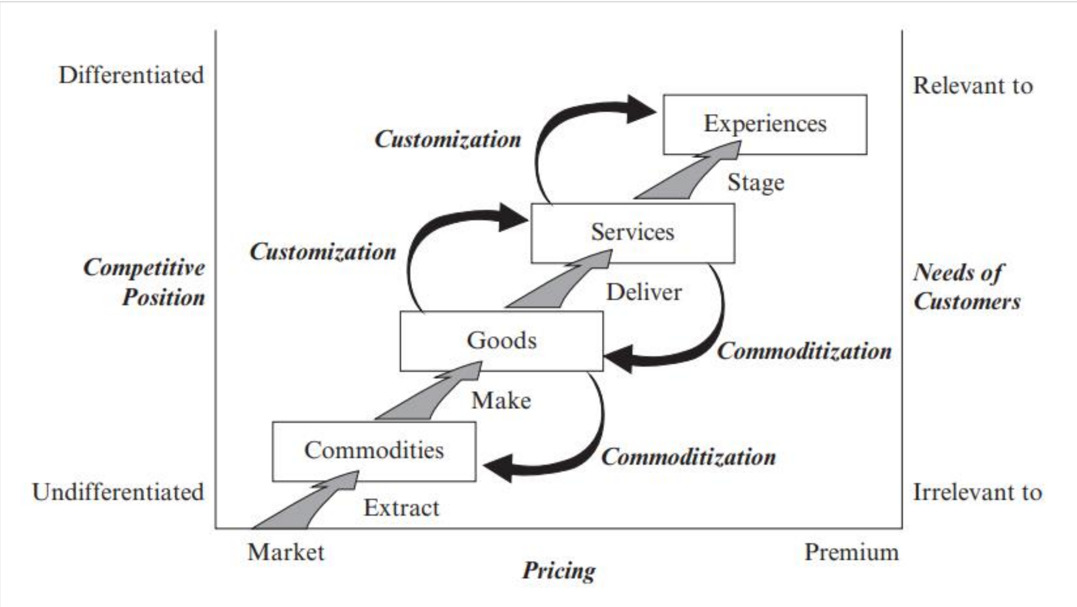
Author's commentary: The research findings are rather optimistic. They testify to the professional approach of the researched companies from the financial services sector towards the state-of-the-art trends of customer engagement. The education-based content, as part of the content marketing strategy, has been in the focus of attention of companies for a relatively short period. Therefore, the number of accompanies implementing this tool is the lowest so far, i.e. only 8 out of the total number of 15 companies. However, it is one of the newest trends in the portfolio of marketing tools which offers added value to customers and boosts engagement and customer loyalty. The research findings proving the efforts of companies to implement the marketing tools boosting customer engagement into the marketing mix are the prerequisite for the implementation of transformational experience.

Research limitation: Though the results are encouraging, they should be validated by a larger sample size.

5. THE SHIFT FROM THE EXPERIENCE ECONOMY TO THE TRANSFORMATION ECONOMY

Taking into consideration the fundamental ideas of the experience economy, creating a remarkable digital customer experience in the financial services industry is to be understood as executing a true return to its core values while investing time, energy and money into creating innovative services/offerings transformed into the memorable customer experience. Pine and Gilmore understand the idea of customization (serving customers uniquely) as the antidote to commoditization and they believe that *"while commodities, goods and services all exist outside the individual buyer, experiences happen inside them. The experience stager effectively reaches inside customers with the sensations, impressions and performances they orchestrate together in order to engage each guest and create a memory"* (Sundbo & Sørensen, 2013, p. 27). Living through an experience is much more than purchasing mere goods, as it is illustrated in Figure 4.

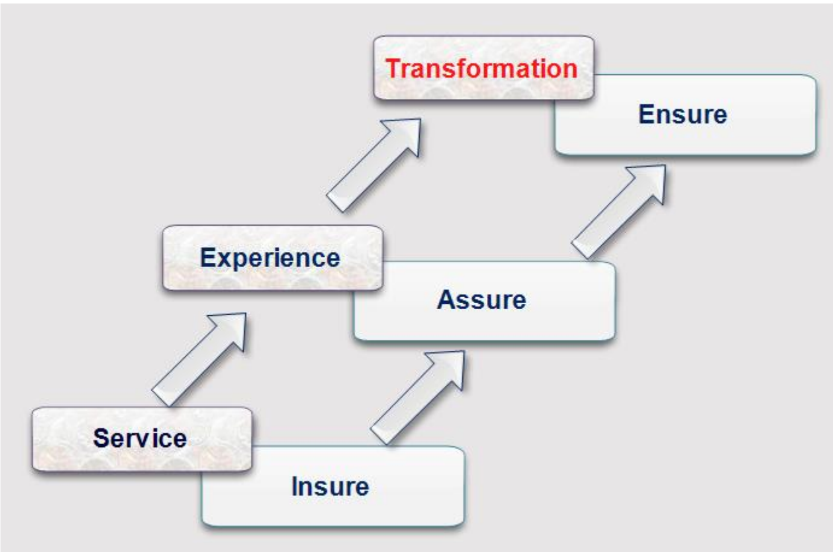
Figure 4. The experienced economy: past, present and future



Source: Pine & Gilmore, 2011, p. 11

However, Pine and Gilmore in their work (2019, p. 227) envisage one step further, i.e. the Transformation Economy, illustrating it by an example from the insurance industry when insurance (service, i.e. secure payment in the event of a loss) in the experience economy becomes *assurance* (*experience*, i.e. encouragement, trust, feeling of satisfaction and on-the-spot relieves) which can be enhanced in the transformation economy into *ensurance* (*transformation* the whole experience into something special which is possible to refer to by the famous claim "delivering peace of mind", i.e. installing GPS monitoring device in the car of teenagers which sends an immediate alert to the parents whenever their teenagers e.g. exceed the speed – all this as part of the car insurance policy package) – see Figure 5.

Figure 5. Successive economic offerings in the insurance industry



Source: author's own elaboration based on Pine & Gilmore, 2019, p. 227

Such a "transformation step" is truly innovative and creative, addressing with precision the core customer needs. Further contemplations and implications lead us to corporate social responsibility since such an approach using modern technology and online tools *“enable parents and their children to discuss proper driving habits and behaviour based on actual data, leading teenagers to become a better driver and thereby earn their parents trust“* (Pine & Gilmore, 2019, p. 227). Thus, the company demonstrates a positive attitude to the CSR and its social pillar.

Another example illustrating the stage of transformation is the newest trend “to change our smartphones into credit cards” with the help of NFC technology[8]. It can be seen in integrating Apple Pay, a contactless payment technology by Apple, into mobile banking apps which is a truly disruptive change based on digital innovation. Recent research into the current practice of all 49 banks operating in the Czech Republic has brought an affirmative insight into the topic: *“The segment managers further emphasized that the creation of an open banking ecosystem pays off, improving client brand awareness and making the bank competitive in terms of digital innovations“* (Jílková, 2020).

6. CREATING A REMARKABLE DIGITAL CUSTOMER EXPERIENCE IN THE FINANCIAL SERVICES INDUSTRY

In the previous chapters, the author examined the portfolio of typical characteristics of a digital customer based on his/her behaviour as a digital learner, i.e. the typical behaviour patterns in acquiring information. Simultaneously, the findings from research in Chapter 2 shed light on digital customers from the viewpoint of their preferences and expectations in financial services. Last but not least, it is important to explore the topic from the viewpoint of recommended managerial techniques used in the process of creating a remarkable digital customer experience.

It is clear that in the financial services industry it is no more sufficient to deliver better customer service because an incremental improvement in the existing business operations is not a guarantee of success. CEOs, directors and senior managers *“must encourage and empower their people to take a creative and entrepreneurial approach to exploit new opportunities“* (Sloane, 2017, p. 1). Though it is a complex process, Paul Sloane in *The Leader’s Guide to Lateral Thinking Skills* (2017) elucidates these issues in detail and offers actionable advice on unlocking the creativity and innovation in business teams. According to this author, for the entire process of changing services into remarkable digital customer experience there are two important aspects to be taken into consideration: (1) *taking a different view on the existing situation*, and (2) *asking searching questions*.

The usefulness of *taking a different view on the existing situation* can be documented by the well-known example of Ford Motor Corporation. The question for their business consultant (Edward de Bono, the great guru of lateral thinking) was: “How can we make our cars more attractive to consumers?”, i.e. a typical approach of a car manufacturer. However, Edward de Bono approached the problem from a different perspective: “How can we make the whole driving experience better for Ford customers (Sloane, 2017, p. 55)?” Before we start creating a great customer experience, we can look at the scene from different views, i.e.: *“(1) the customer’s view; (2) the product’s view; (3) a supplier’s view; (4) a child’s view; (5) a poet’s view; (6) a comedian’s view; (7) a dictator’s view; (8) an anarchist’s view; (9) an architect’s view; (10) Salvador Dali’s view; (11) Leonardo da Vinci’s view, and (12) Charles Darwin’s view“* (Sloane, 2017, p. 54).

Thinking about a problem from a different perspective can bring a better solution which becomes apparent. In the financial services industry, for example, a real challenge is a current trend of “turning mobile phones into credit cards”, i.e. the mobile apps enabling mobile

[8] NFC technology = near-field communication (NFC) technology. A tiny antenna mounted in the phone transmits encrypted credit card data. The users do not have to swipe their card.

payments. The issue is technological and the majority of potential customers will need help from their financial services providers, otherwise, the adoption of the new apps as well as ROI will be slow.

The second important approach is *asking searching questions*. It was James Thurber who said that *"It is better to know some of the questions than all the answers"*. In the efforts to question the status quo, successful managers typically use open-ended questions starting with "why". Other examples include questions like: "Are we asking the right question?"; "Why do we need to solve this problem?"; "How can we restate the problem?"; "Who would benefit and who would lose if we solved this problem?", "What are we assuming about this situation?"; "What would happen if we challenged those assumptions?"; "Can we draw a diagram or picture of the problem?"; "If we had unlimited money and resources, how would we solve this problem (Sloane, 2017, p. 47)?"

Creating a remarkable digital customer experience involves designing innovative ways of adding value to economic offerings. Challenging the status quo and asking the right questions are important steps to be taken at the very beginning of this challenging process.

7. CONCLUSION

The objective of this paper was to examine, analyse and critically evaluate the characteristics, behaviour patterns and expectations of digital customers when dealing with the financial services providers and to address the question of how seriously savvy financial services providers reflect the shift from the Experience Economy to the Transformation Economy in their current business operations. On the background of the literature review and the research data (both primary and secondary), the author presented a valuable up-to-date insight into both areas. During the elaboration of the paper, the author consistently accentuated an interdisciplinary approach to scientific literature selection and data compilation as well as their interpretation. The areas of finances and financial services were complemented mainly by psychological and marketing aspects. In the focus of the research, there is the digital customer and his/her changing characteristics and behaviour patterns in acquiring information and learning about new financial services industry offerings.

The differences in customers' preferences and their expectations related to, for example, engagement and trust were presented based on the global financial services consumer study (2019 Global Financial Services Consumer Study | Accenture, 2019). The research part of the study was designed using customer segmentation based on the buyer personas tactical framework. It is a unique approach which is worth raising awareness, especially within the academic researchers and the business community. While designing the customer experience, the differences between individual personas provide much better insight into customer preferences and expectations.

The author is confident that the key findings mentioned in Table 2 still represent a challenge for financial services providers, and the author of this paper suggests that more attention from academia and further research are needed to help resolve these issues. Among the findings, the customers' need for better integration across physical and digital channels is significant and often underestimated.

The author carried out *primary web-based research* using the *technique of observation and document analysis* to examine the current situation in the use of selected marketing tools boosting engagement and their implementation in marketing strategies of the selected companies. Though the results are promising, the whole portfolio of the marketing tools boosting engagement under research was used only by 30% of the companies.

Accordingly, the author quotes specific examples and techniques, often based on the latest technological innovations (GPS, NFC technology), and formulates actionable advice on creating remarkable digital customer experiences. Thus, companies can reach the desired stage of *transformational experience*.

In the introduction of this paper, the real-life implementation of remarkable customer experience was taken from the entertaining industry represented by Walt Disney. In 2019, Robert Iger, the former CEO of the Walt Disney Company (2005–2020), shared the lessons he had learned while running Disney and leading its 200,000 employees. Among the lessons learned, he mentioned: *"Now more than ever: innovate or die. There can be no innovation if you operate out of fear of the new"* (Iger, 2019, p. 225). His many-year experience in the role of a business leader can serve as an inspiration for managers today since it can help them create the innovative, remarkable and memorable customer experience.

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Integrated Reporting

ECOLOGICAL AND INTEGRATED REPORTING USING AN ERP SYSTEM AND HUMAN CAPITAL

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Abstract
This article shows the importance of the ecological and integrated reporting for any company with the help of an integrated ERP system. Only with the support of human capital, it is possible to use properly the system. We chose this type of integrated system because it offers the possibility of an electronic archive and can also generate reports of any form (PDF, EXCEL, etc.). The research objectives were to demonstrate the efficiency of an ERP system for an integrated and ecological reporting, as well as, the efficiency of its use for a maximum of performance at company and employee level. Printing documents generates certain costs and it is also a waste of time at the employee level (for organizing documents). The ERP system offers the possibility to have access to any type of report (whether it is generated by the employees or company managers). In some cases, in order to perform certain operations, or to generate a situation, a user will need the consent of a superior to perform the task. In the case of a global pandemic, this type of both financial and integrated reporting is the most efficient and secure way to fully maintain administrative activity. Of course, in order to be able to carry out these operations, any society needs well-trained human capital. To present better the importance of an ecological integrated reporting, and to protect the environment, we conducted a quantitative research, using the questionnaire as a measurement tool. This study confirmed all the mentioned aspects.

Keywords: *ecological reporting, ERP system, human capital, integrated reporting, performance*

JEL Classification: A10, C10, G10, M40, M50

1. INTRODUCTION

In this paper we started to emphasize the importance of an ecological and integrated reporting at the level of the company. In order to carry out this research, we analysed the companies that operate on the Romanian market in the private and public environment. Currently, Romania is a country of bureaucracy. Whether it is the public or private environment, this bureaucracy is very common. In this bureaucracy definitions, we can say that for whatever you need, each physical or juristic person must prepare a file full of the necessary documents, in brief, with a lot of physical documents (a very large accumulation of papers). Therefore, we are still trying, as much as possible to implement at the level of companies, especially in private ones, the environment protection through electronic archive or integrated reporting at online level, or as much as possible access to the necessary documentation in online area.

Also, on the Romanian market, the packaging represents an important element. The companies that deal with the distribution and sale of goods, invest colossal amounts in packaging (this being a strategic element in the marketing area for faster product sales). Of course, Secretary of State for the Environment intervenes by applying certain fines, if those companies do not recycle their packaging later. Unfortunately, at the administrative level, there are no fines or warnings from them. Therefore, paper consumption in administrative departments is high. Every day, in any society, human capital prints at least 100 pages. Through this study, we looked at how important ecological and integrated reporting is.

We also pointed out the idea of saving paper, and protecting the environment. This reporting is not possible if a company does not benefit from an advanced integrated system that can manage the necessary actions for reporting. Then, even if there is an intelligent system, well-trained human capital is also needed to use it. In brief, in order to reach a maximum performance at entity level, human capital (employees) together with structural capital (information systems) and relational capital (customers) must coexist in full harmony. In addition, in order to achieve the most accurate reporting, we cannot use any computer system. The systems that best adapt to these types of needs are the ERP type (Enterprise Resource Planning). These systems, proving, how effective they are to achieve optimal performance at the company level, as well as to protect the environment.

2. LITERATURE REVIEW

Over the time, the accounting profession has challenged the traditional reporting model of companies, arguing that it does not adequately meet all the information needs of stakeholders in order to have an overview and to assess the past and future performance of a company (Flower, 2015).

Traditional financial reporting is actually reporting a company's results and is known as “Financial Reporting”. This can be of two types; external financial reporting and internal financial reporting. Integrated reporting is a new area in accounting and aims to improve the scope of corporate reporting. Compared to the traditional approach, integrated reporting tries to report the whole process of creating and bringing added value to a company. It refers to the fact that both financial and non-financial factors are responsible for developing a sustainable added value for a company (IIRC, 2013).

Meanwhile, the company questions the basic reason for the existence of an organization, namely, bringing of added value. The traditional model is considered restricted because it does not generate value or justness for employees, society and the environment (Gray, 2006).

Moreover, traditional annual reporting is retrospective and does not present future objectives and crucial risks that may become relevant in the future. The question is often asked how much value can be given to traditional sustainability reports as a complement to annual reports. It is recommended that they include information about the company's strategic intent (Jensen & Berg, 2011).

Integrated reporting is increasingly mentioned, supported and promoted as a solution to financial reporting deficiencies. The framework defines it as a consistent communication about the strategy, governance, and performance of an organization in the context of the external environment that leads to the creation of added value. This value can be brought in a short, medium or long time (IIRC, 2013).

A first benefit of integrated reporting is the improvement of internal management processes. Another advantage would be to increase the credibility and trust of the customers, suppliers, and other stakeholders about the company. This aspect is increasingly important. Governmental and non-profit organizations are looking for business partners to provide them goods and services in a sustainable way. In addition, integrated reporting helps maximize the potential for transferring, selling or handing over the business, providing a better basis for evaluation and guaranteeing funding at a reasonable cost (Bratu, 2017).

Integrated reporting is considered a way to achieve a more accurate, consistent reporting combination, and meets the need for a single report that provides a more complete picture of a company's ability to create value. Integrated reporting allows for much greater interconnection between different reports. This reporting provides useful decision-making information for organizational stakeholders, beyond those provided in traditional financial reporting and financial statements. It can also provide important links between financial reporting and other organizational reporting. The integrated report also includes environmental, social and personnel issues, respect for human rights, the fight against corruption and bribery (IFAC, 2017).

In order to generate as much added value as possible, any company needs an integrated system adaptable to individual needs. The systems that adapt best are the Enterprise Resource Planning (ERP) type. These systems bring added value for the integrated reporting of a company, and also for the performance increase at the company level.

ERP is an intelligent integrated computing system that facilitates the automation of the flow of material, informational and financial resources. All these elements are included in the functions of a company in a single database (Wei, 2004).

Enterprise resource planning (ERP) systems are software packages. They are composed of several modules, such as human resources, sales, finance and production, ensuring the integration of information through business processes embedded in an organization. These software packages can be customized to meet the specific needs of a company. In the 1990s, ERP systems became the standard for the replacement of old systems especially in multinational companies. The term ERP was originally coined in 1990 by The Gartner Group. This one described the next generation of software. Historically, the system has evolved from material requirements planning and manufacturing resource planning in the 1970s and 1980s, respectively. The software has been designed to systematically link different aspects of information in the specific context of the business, such as manufacturing (Nazemi et al., 2012).

The ERP system allows a company to integrate all the elements of business processes to increase efficiency and maintain a competitive position. Without the successful implementation of the system, the company will not be able to access the benefits it offers. Proper implementation involves a future advantage and an improvement in productivity. In its basic definition, ERP is a computer system that integrates and controls all business processes throughout the organization. At the same time, it is defined as a computing system designed to integrate and optimize all business processes and transactions in a corporation (Ranjan et al., 2016).

However, ERP is also considered a concept or system based on industry being universally accepted by an organization as a practical solution for integrated reporting. ERP systems have become strategic tools in a competitive business environment. This system facilitates the flow of information and common functional practices across the organization. Of course, companies cannot access all the benefits of a complex system if there is no support from management. Management support must be provided on reengineering business processes, on efficient project management, as well as, user involvement and their education / training (Haddara, 2011)

As the implementation of the ERP system requires a substantial capital investment, organizations expect successful results so that the organization's objectives are achieved. The selection of ERP technology is crucial and essential for a company because it is a serious investment decision. Investments in ERP systems and their implementation projects in organizations are strategic and very risky due to the complexity, high costs and change management issues at the level of employees. It is essential to select an ERP software that matches the organizational objectives of the company for successful implementation (Chen, 2001)

Radut and Codreanu (2012) argued that the most important part in adopting the ERP system is the selection part, and the selection process should be specific to the company and take into account its requirements. The method based on criteria and detailed analysis of the offered characteristics is recommended.

Often, the presentation offer of an ERP system is a simple sequential quality model, with features composed of six attributes, namely: functionality, reliability, efficiency, usability, maintainability and portability. Two categories are defined that classify the basic criteria for the selection process of the ERP system, namely:1. related to software, 2. related to implementation.

Functionality is the main selection criterion of an ERP system, being related to its software. Then the other criteria are to be considered, and only related to the actual implementation of the ERP system. These are: total ERP implementation project costs, vendor reputation, ERP reliability, ease of use, integration with other systems, technological advancement, scalability, upgradeability, customization capabilities, flexibility and modularity (Ratkevicius et al., 2012).

Johansson et al. (2011) studied the relationship between the factors influencing the selection of such a system. Usually, most companies plan a budget for implementation. Most of the times, they also take into account the number of modules offered for implementation depending on the specifics of the company. Also, companies that use information strategies are more likely to stay in the budget on the implementation of ERP systems.

The value of an ERP system is defined as the extent to which a company's objectives and performance are improved by simply adopting this type of system. The use of ERP is defined as the extent to which the system carries out the activities of the company's value chain (sales, car service, procurement etc.). This dimension is rooted in the degree of use of operating modules (Ruivo, 2020).

Because the investments and collective efforts required to implement and run ERP systems are significant for any organization, the fundamental question of the ERP system value has been a key issue. Does an ERP system have any value for an organization? What kind of value can an ERP system bring to an organization? How do we measure the value of this ERP system? Several articles present different types of templates for ERP. These range from the conceptual model that explains the ERP system, to the success factors of ERP implementation, an ERP governance model and user-employee acceptance. And others try to challenge common opinions or misconceptions about ERP to ask questions such as: Is the ERP system so valuable? Does it offer the best business practices? etc. A common observation on future trends in ERP is its further expansion. New integration technologies, such as software composition, service-oriented architecture, web services and their implications, are discussed. Several articles attempt to provide a sense of direction in the ERP research community by analysing the ERP literature. The ERP research community is diverse and comprehensive. The field is truly multidisciplinary and interdisciplinary. In a relatively short period of time, researchers have contributed so much to the field that newer topics are now being approached from a variety of perspectives (Moon, 2007).

Indeed, the ERP system represents an added value both for the organization and for satisfying the needs of managers / associates, through a financial and integrated reporting on the current position of the company. However, trained employees are also needed to use the system correctly. The system cannot function without the direct involvement of human capital (employees). Moreover, there are external and internal users of the integrated report and other users of the ERP systems (the human capital who actually use the ERP for preparing reports for the users of these reports. Integrated report users are those people who actually have use the final reports already prepared (external or internal users of the report – managers, investors, state, community, banks, customers, suppliers or the parent company). ERP users are those people who actually use the ERP system (employees) to prepare reports for other users, namely

85% of the respondents mentioned in the article. They usually have requirements for an easy-to-use approach to the system and the accessibility of information without prior authorization.

Lately, management has found that human resources are of particular importance in gaining a sustainable and efficient competitive advantage. In the worldwide where the knowledge and communication with customers has become increasingly important, human capital demonstrates ingenuity through the volume of knowledge, technical / operational skills, creativity and experience (Hendricks, 2002).

Human capital, in simple terms, represents the human resource that through its own abilities and experiences brings productivity to an organization. Human capital displays an intrinsic talent, which can change or moderate, depending on the organization specifics. Human capital refers to the knowledge, education, and competence in work, acquired by a person in his professional development. Human capital is the investment in human resources to increase their efficiency at the company level. The investment costs are expected for the future use. In general, organizational capital is a coherent collection of qualitative characteristics, including educational, skilled, and cultural, that create added value for the organization (Namasivayam & Denizci, 2006).

Human capital can help the company to have a competitive advantage. Employees can create previsions at different levels of the company, can generalize and fulfil its values, missions and objectives. They can also create strategic plans based on values. Any company will generate added value if it motivates and trains its employees (Pasban, 2016).

Given the fact that, it is necessary to bring productivity to the company level and to generate maximum long-term performance, all elements, system and users (human capital) must coexist in close connection.

3. PROBLEM STATEMENT

We conducted this research starting from the idea of an ecological reporting at the level of any company operating on the market. The research was carried out in Romania and the existing problems on the current market were identified. A current problem is the one regarding the greening of documents at administrative level. Many companies do not have an administrative and ecological thinking, because at present there is no law that applies sanctions on the excessive consumption of administrative resources. A large majority of existing companies on the market do not use ecological and integrated reporting. Most companies use traditional financial reporting without taking into account the benefits of integrated reporting.

The final beneficiaries of this system are the users of ERP system (to easier generate reports) and the users of these reports (easier to evaluate the company´s overall impact on environment).

In recent years, integrated reporting has been increasingly appreciated by managers / shareholders of companies. Although financial reporting is mandatory, being required by current law, there are many companies that also use integrated reporting (these companies are usually corporations, or large companies, which have several subsidiaries, working points both nationally and international). In addition to classic reporting, integrated reporting also targets society and the environment, providing a more detailed picture of the company's situation. We started from the idea, in order to achieve an ecological and integrated reporting, you need an integrated system that can generate whatever is needed. The system that best suits to any company is ERP. These systems satisfy both mentions.

The system generates any type of report, depending on the chosen criteria for integrated reporting. The values that ERP systems can generate are multiple: operational benefits, financial benefits, investor benefits, user satisfaction, and more. Sometimes, the value can also be measured by observing the reactions on the current market to the simple announcement of the ERP Project. Valuation methods can be numerous and complex. For example, benefits can be measured by cost savings, time, return on investment, asset turnover, return on assets, market perceptions, and so on.

And at the same time this system can satisfy the idea of ecological reporting. ERP often offers the possibility of an electronic archive. In addition, the ERP system can help process tasks such as submitting a document for approval with just a few clicks electronically, without the need to print, sign, submit, approve, generate. For example, if you want to pay a supplier, you only need an ERP system connected to the company's bank account, and then an employee can generate a payment order from the system, it can be sent to the superior for approval, and once received his approval the payment is made. Of course, in order to accomplish all the tasks, well-trained human capital is required in order to benefit from all the system opportunities. Therefore, it is recommended to train the capital, in terms of how to the system operates in order to achieve maximum performance at the company level. If an employee does not know how to use the system correctly, the actual working time will be much longer and its efficiency lower.

4. RESEARCH QUESTIONS/AIMS OF THE RESEARCH

The first question that the case study focused on was: Can an ERP system lead to integrated and environmentally friendly reporting? The research also aimed at whether: Does this system offer the possibility of a classic financial reporting and an integrated reporting? Another question that we focused on was: What is the vision of the Romanian respondents regarding the achievement of the global performance at the level of a company? Is it necessary that the system (used by the company) and its users (employees, managers) to work at maximum performance?

5. RESEARCH METHODS

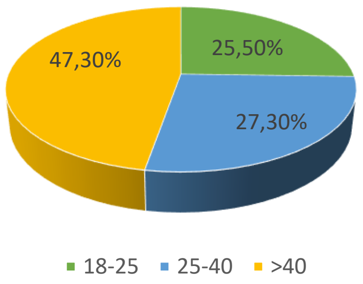
The research methods were quantitative, and we used the case study and the questionnaire as a measurement tool. We made a questionnaire to address the current issue on a free platform (Survio). This questionnaire was completed in 2020. It was prepared at the end of April and sent to respondents from May to July 2020. We transmitted this questionnaire mainly in the financial departments within some companies operating on the Romanian market. These companies are both private and public. We distributed the questionnaire to the respondents by e-mail or through the social media application (WhatsApp). Respondents are people with higher education who work mainly in the economic field. A total of 96 people answered at this questionnaire (due to automation the answers were relatively few, and the number of people working in the financial field is diminished). We tried to choose those people who hold a leadership / decision position and an execution function in order to have an overview of their vision. Respondents were Romanian, Chinese and Greek nationals. They operate in Romania, whether they have their own business or are employed in Romania. The most of the selected respondents currently use or have experienced an ERP system and have the necessary knowledge about this software. There were 21 questions and offered the possibility to choose a unique answer. The first three questions were for identify the profile of the respondents, more precisely, the age category, the position held and the seniority in the field. The other questions were numerical, with the answer option from 1–5 in order to apply the statistical analysis on the answers. Number 1 represented the variant with “The Least” and number 5 the variant with “The Most”. So, following the answers received, we obtained 18 questions that could have been put under statistical analysis. To perform a regression on the data we used EXCEL through

"Data Analysis". We also did a case study on these questions. Thus, we represented graphically and analysed the strengths and minimum points obtained after them. Based on the graphs, we also represented the asked questions purpose. We have highlighted graphically the preponderance of minimum and maximum answers as well.

6. FINDINGS

In the first part we started from the analysis of the received answers and from the more exact contouring of the respondents' profile. Therefore, we have graphically highlighted the age categories of the respondents. According to Figure 1, a good part of the respondents are over 40 years old, which means that many of them have a much greater experience on the labour market, with age. They are 47.3%. Then a percentage of 27.3% is represented by the middle population, more precisely the people aged between 25 and 40 years. The lowest percentage is 25.5% and applies to the young population in training, aged between 18–25 years. As the first mention, the most respondents are represented by the adult population.

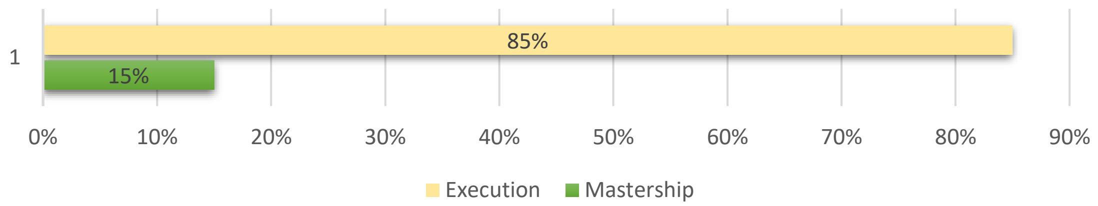
Figure 1. Age of the respondents



Source: own processing – questionnaire results

In order to outline better the profile of these respondents, we also analysed the percentage of people who hold an executive or directive position. As expected, people holding a management position have a lower percentage, respectively 15%. Persons holding an executive position account for 85% of all respondents. This is relatively normal, because people who hold a leadership position generally represent a smaller percentage of the total population than those who hold an executive position. (Please see Figure 2.)

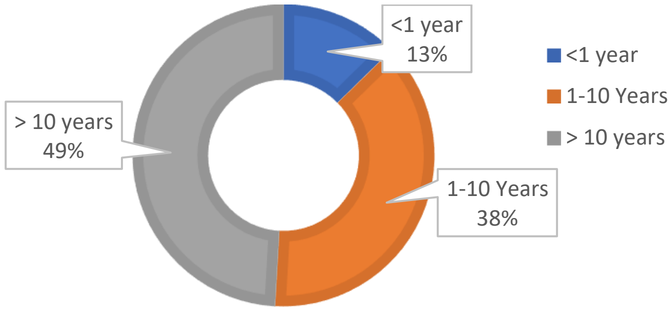
Figure 2. Position in the organization



Source: own processing – questionnaire results

Although we highlighted the age category, we also wanted to analyse the respondents experience in the labour market. Because there are many people who change their field of activity over time, for various reasons, either personal or professional. We classified their experience into 3 groups. As expected, the percentage of their experiences over 10 years in the field, is high, respectively 49%. This percentage is followed by people who have an experience from 1 year to 10 years, respectively a percentage of 38%. The lowest percentage is for those who have an experience of up to one year, more precisely 13%. This percentage is also due to the fact that there are fewer young respondents who have completed the questionnaire.

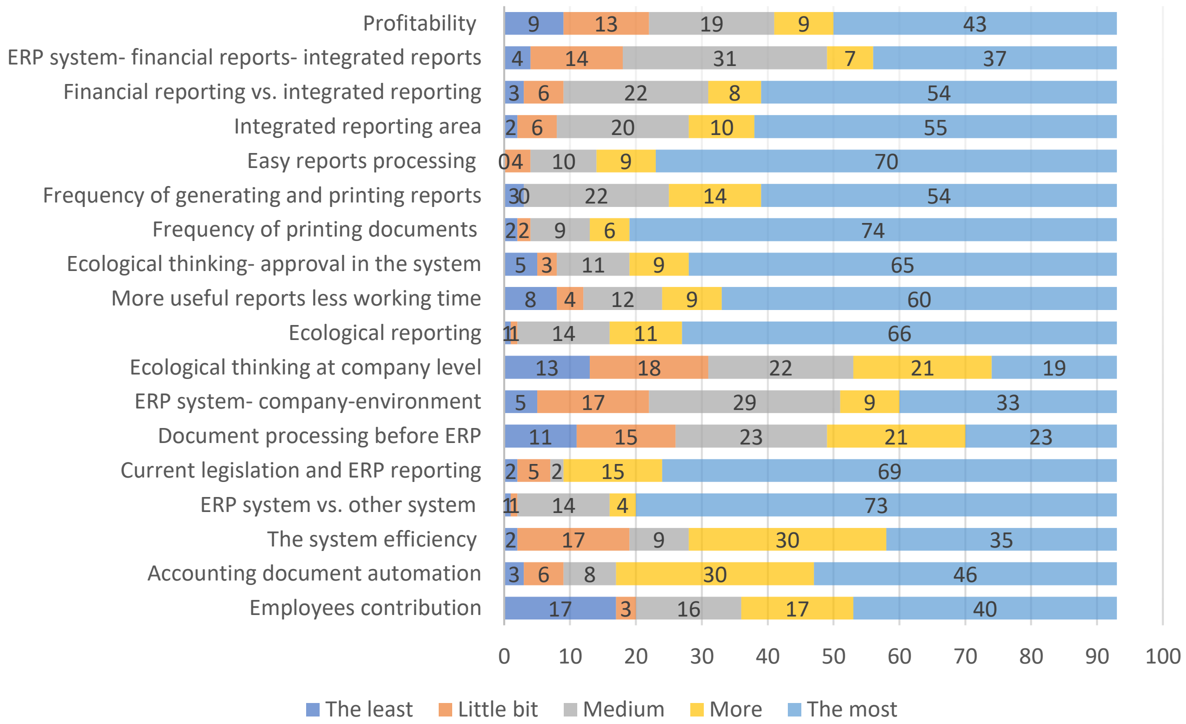
Figure 3. Seniority in work



Source: own processing – questionnaire results

In order to have an overview of all the questions addressed to the respondents, we graphically highlighted all the answers received (please see Figure 4). On this graph you can also see the total number of respondents, the structure of the questions asked and the frequency of respondents' answers. As you can see, there are many respondents who chose "The Most" because the questions had a significant impact. According to the graph, there were quite a few respondents who chose the middle option - Medium, showing some impartiality. They are followed by the people who chose the "More" option. The lowest number in terms of analysis of the answers was recorded for the "the least" variant. Given most of the answers, we can say that the questions had a significant impact on the respondents.

Figure 4. All of the questions and answers



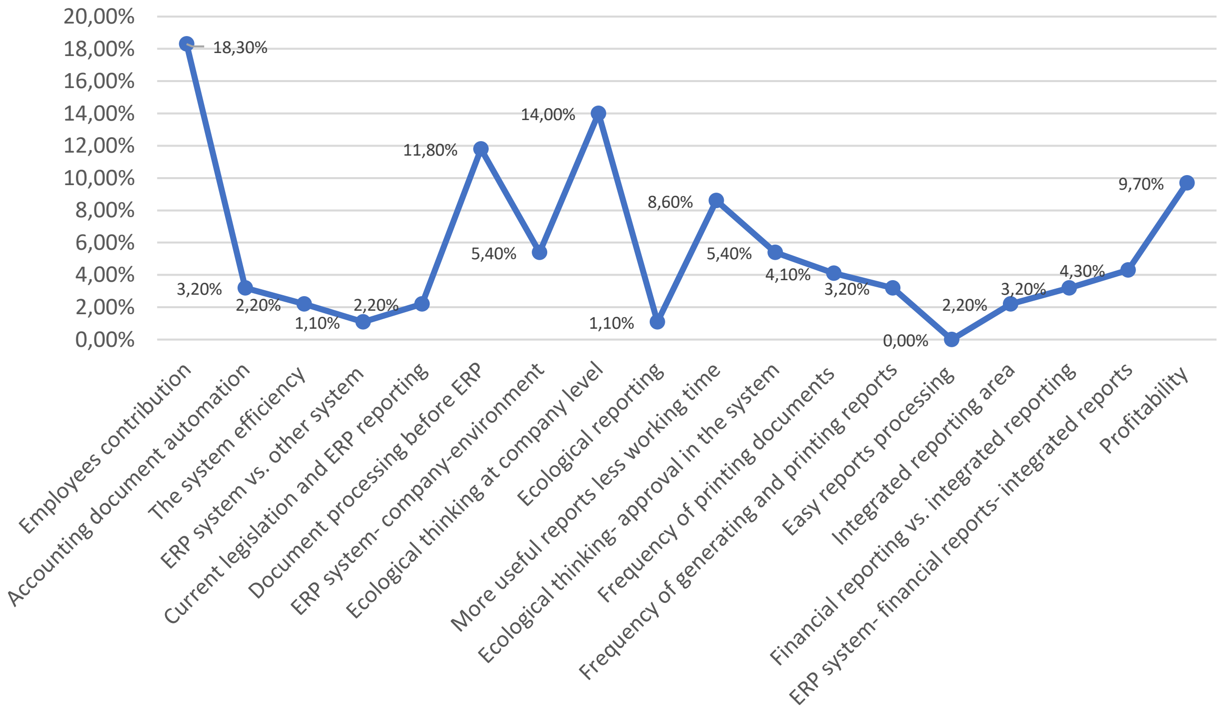
Source: own processing – questionnaire results

Answers that targeted the “the most” variant predominated, as can be seen from the figure 4. Then the answers that chose the “the least” option are relatively few. Therefore, we decided to highlight graphically in percentage the frequency of these variants in correspondence with the questions asked. The values represented on these graphs represent exactly the answers received in the case of the variants chosen by the respondents but are presented in percentages.

The research questions were also included in the questionnaire. The first research question was also addressed to the respondents and divided into two separate questions (the first is the one referring to “ERP system-financial reports-integrated reports” and the second was that one referring to “ecological reporting”). Most respondents rated the option “the most” so that the information has a significant impact on their perspective. The second research question also materialized in the questionnaire, and can be found in that one refers to “financial reporting vs. integrated reporting”. And in this case, a large part of the respondents chose the “most” option. Another research question focused on company-level performance, and in the questionnaire, the answers received are found in the one referring to “Profitability” (e.g. how much does the ERP system-human capital relationship contribute to a global profitability?). The last research question was also sent to the respondents and can be found in the one referring to ERP system-company-environment.

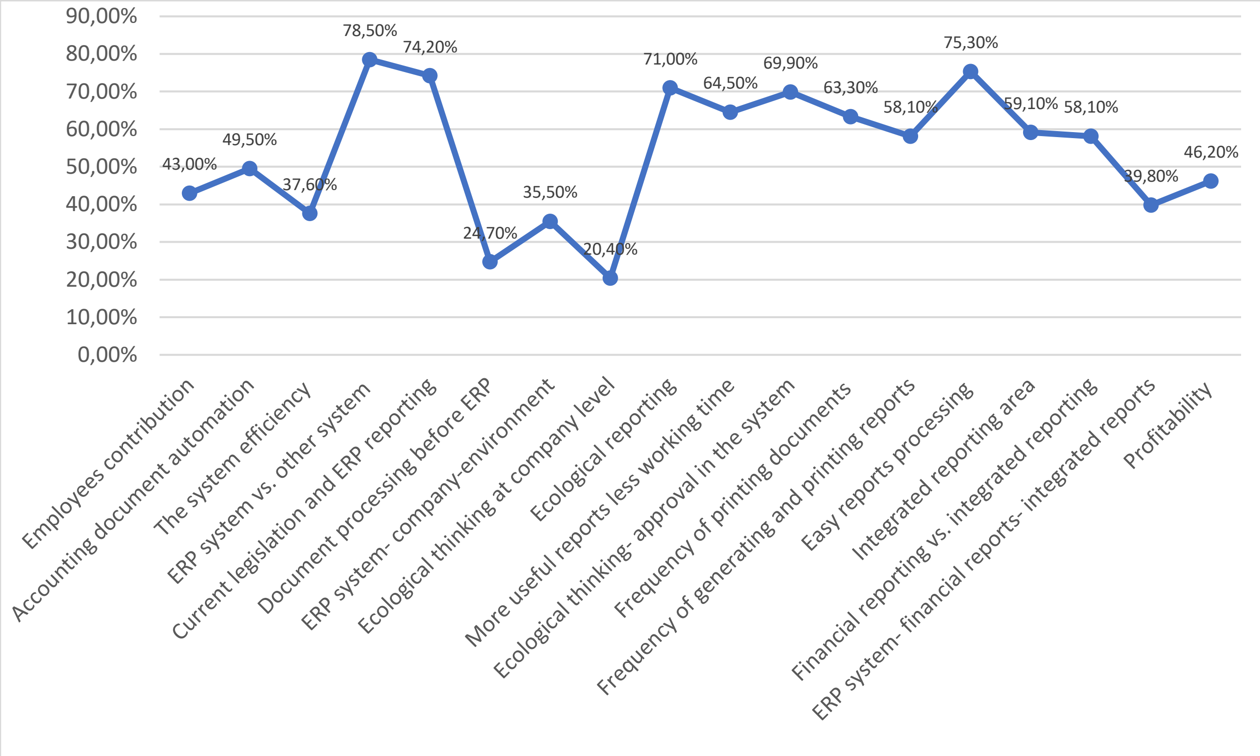
Of course, we considered it necessary to highlight the percentages of the minimum and maximum answers “The least” and “The Most”. This represents how strong the impact felt by the respondents was on the questions asked. According to the first chart related to the lowest elections, we can note that 18.3% appreciated the contribution of employees as low, because many tasks are taken over by the system. A percentage of 14% considered that the ecological thinking at the company level is also reduced. A percentage of 0% registered the ease of processing the reports, which indicates the reliability of the ERP system. (Please see Figure 5)

Figure 5. Presentation of the received answers that scored the variant “The Least”



Source: own processing – questionnaire results – answers – “The Least”

Figure 6. Presentation of the received answers that scored the variant "The Most"



Source: own processing – questionnaire results – answers – "The Most"

According to Figure 6, the highest percentage recorded is 78.5% and shows the appreciation of users towards an ERP system compared to other types of systems. This percentage is relatively normal because the benefits of such a system are much more convenient than any other option offered by a classic accounting or management system. A percentage of 75.3% also registered the users' appreciation on the easy reports processing generated by the ERP system. The lowest percentage was ecological thinking at the company level, as expected. As we mentioned above, Romanian companies do not have such a developed ecological and administrative thinking.

In order to be able to analyse the answers received more detail, we also used statistical research based on regression. The research aimed at a multifactorial model. Therefore, following the questionnaire based on the obtained results presented in percentages in Table 1, we applied the regression. The questions were represented by the variable X, and the answers by the variable Y. In the current case Y represents the dependent variable (the answer depends only by the question), and X is the independent variable (the question asked). The analysed population is represented by the received response variants, materialized in percentages. Being a multifactorial model, it includes the 5 types of answers received, in total of 18 numerical questions from the questionnaire, which could be subjected to statistical analysis. The statistical sample is represented by the range of questions asked.

Table 1. The results on which we applied the statistical analysis

Questions	The least	Little bit	Medium	Much	The most
100.00%	18.30%	3.20%	17.20%	18.30%	43.00%
100.00%	3.20%	6.50%	8.60%	32.30%	49.50%
100.00%	2.20%	18.30%	9.70%	32.30%	37.60%
100.00%	1.10%	1.10%	15.10%	4.30%	78.50%
100.00%	2.20%	5.40%	2.20%	16.10%	74.20%
100.00%	11.80%	16.10%	24.70%	22.60%	24.70%
100.00%	5.40%	18.30%	31.20%	9.70%	35.50%
100.00%	14.00%	19.40%	23.70%	22.60%	20.40%
100.00%	1.10%	1.10%	15.10%	11.80%	71.00%
100.00%	8.60%	4.30%	12.90%	9.70%	64.50%
100.00%	5.40%	3.20%	11.80%	9.70%	69.90%
100.00%	4.10%	4.10%	16.30%	12.20%	63.30%
100.00%	3.20%	0.00%	23.70%	15.10%	58.10%
100.00%	0.00%	4.30%	10.80%	9.70%	75.30%
100.00%	2.20%	6.50%	21.50%	10.80%	59.10%
100.00%	3.20%	6.50%	23.70%	8.60%	58.10%
100.00%	4.30%	15.10%	33.30%	7.50%	39.80%
100.00%	9.70%	14.00%	20.40%	9.70%	46.20%

Source: own processing using questionnaire results

Table 2. Statistical evaluation of the questionnaire results using Summary Output

Regression Statistics	
Multiple R	0.999999885
R Square	0.999999769
Adjusted R Square	0.923076621
Standard Error	0.000565537
Observations	18

Source: own processing using questionnaire results

Multiple R is the correlation coefficient. This one uses a linear function of a set of other variables to measure how a given variable can be predicted. It is also considered to be the correlation between the best predictions that can be calculated linearly from the predictive variables and the values of the variable. In the current case, Multiple R is close to the extreme, summing the value of 0.99. This value indicates that there is a direct and strong connection.

R Square is the coefficient of determination. It statistically measures the proximity of the data to the regression line. In this situation the result obtained for R Square is 0.99. This value shows that 99% of the y variation is determined by the influence of the variables.

Adjusted square R is the coefficient that determines the deviation factor. In the current situation, 92% of the y variation is influenced by x. The residual components represent the rest up to 100%.

Standard Error is the standard deviation of the statistical sampling distribution. It is also considered a statistical term that measures the population accuracy which is represented by a sample. The result obtained in the current situation is 0.05% (this means that almost all points are on the regression line). This result indicates a stronger estimate of the population average.

According to the data presented, there is collinearity in the model. This is due to the fact that absolutely all the questions asked were scored with a percentage of 100% in order to generate numerical data in regression.

Table 3. Statistical evaluation of the questionnaire results using ANOVA

ANOVA					
	df	SS	MS	F	Significance F
Regression	5	17.99999584	3.599999168	11255899.36	1.37788E-39
Residual	13	4.15782E-06	3.19832E-07		
Total	18	18			

	Coefficients	**Standard Error**	**t Stat**	**P-value**	**Lower 95%**	**Upper 95%**	**Lower 95.0%**	**Upper 95.0%**
The least	1.006742174	0.003105029	324.2295511	8.62675E-27	1.000034166	1.013450181	1.000034166	1.013450181
Little bit	0.999744486	0.003103887	322.0943611	9.40039E-27	0.993038946	1.006450026	0.993038946	1.006450026
Medium	0.999003578	0.001965926	508.1593126	2.50683E-29	0.994756454	1.003250703	0.994756454	1.003250703
Much	0.997652051	0.001884675	529.3497192	1.47394E-29	0.993580458	1.001723643	0.993580458	1.001723643
The most	0.999278712	0.00053293	1875.066777	1.06667E-36	0.998127388	1.000430037	0.998127388	1.000430037

Source: own processing using questionnaire results

The sum of the variation is determined by the regression, which sums the value of 5 but also by the residual variable which has a value of 13, out of a total of 18.

The sum of the squares of the regression in the current case is 17.99 (the formula is: D square y / x = the sum i = 1 -> n of (yi-y) square). The sum of the squares of the residual value in the presented situation is 4.15 (the formula is: D square = sum i = 1-> n of (Yi-yi) square).

Ms is the corrected scatter or mean of the squares. In the presented situation, it generates the values of 3.59 for regression having K freedom degree and respectively 3.19 for the residual value having n-k-1 freedom degree. The total degree of freedom is n-1.

The corrected dispersion for the regression value is calculated as S square y / x = D square y / x / K. The corrected dispersion of the residual value is determined to be S square e + D square e / nk-1, this one is also equal to MSE radical. The total corrected dispersion uses the formula S square y = D square y / n-1.

Significance F represents the F test for the ANOVA table. It includes both the null hypothesis: “the model is not statistically valid” and the alternative hypothesis: “the model is statistically valid”. Its formula is F = MSR / MSE.

Critical region F calculated> F; k; n-1-k, generates the value of 1.37. This confirms that x is valid. Therefore, it is also considered a significant factor.

At the same time, Significance F shows the probability that the equation does not explain the variation in y, and any match would be random. There is no significant correlation if Significance F is <0.05 (5%). In the analyzed model, this condition is met, the value obtained being 1.37, the multifactorial regression model being valid (statistically significant).

Table 4. Statistical evaluation of the questionnaire results using Residual Output

Observation	Predicted Questions	Residuals	Standard Residuals
1	1.000314428	-0.000314428	-0.654221937
2	0.999998024	1.97628E-06	0.004111984
3	0.999975324	2.4676E-05	0.051342719
4	1.000253721	-0.000253721	-0.527909496
5	1.000199393	-0.000199393	-0.414871912
6	0.998799528	0.001200472	2.497787728
7	1.000522627	-0.000522627	-1.087413968
8	1.000980403	-0.000980403	-2.039897248
9	1.000131721	-0.000131721	-0.27406841
10	0.99974732	0.00025268	0.525744736
11	0.999506392	0.000493608	1.027036332
12	0.999360511	0.000639489	1.330565877
13	1.000205989	-0.000205989	-0.428595425
14	1.000110518	-0.000110518	-0.22995261
15	1.000237629	-0.000237629	-0.494428016
16	1.000341997	-0.000341997	-0.711583996
17	0.999456354	0.000543646	1.131149269
18	0.999853963	0.000146037	0.303855428

Source: own processing using questionnaire results and Data Analysis

In the analyzed situation, the questions addressed to the respondents represented the free term, and the answers received being considered the chosen variable. The coefficients represent the values for the variable y, of 1.0067,0.9997,0.999,0.9976,0.9992 compared to x.

Significance tests for parameters are represented by the statistics test. These are equal to = b-0 / s.e (b) and sum the values.

Lower than 95% (left limit) = b - (t alpha * s.e. (b) - standard error). Therefore, it can be mentioned that the alpha parameter is significant. The probability of dealing with H1 (which is significant) amounts to 99%> 95%. Upper 95% (right limit) = b + (t alpha * s.e. (b) - error margin). We can say that the beta parameter is significant because it sums the values of over 99%.

These represent the lower and upper limits of the confidence interval for the analyzed parameter. Based on the mentioned we can say that these data validate the research results (questions are considered significant according to the answers received)

7. CONCLUSIONS

To conclude, the research achieves all the mentioned objectives. This one validated the importance of using an ERP system to obtain ecological and integrated reporting. It demonstrates the efficacy of using an ERP system for any company that needs a clearer view of the current situation. Whether the company is from the public or private environment, well-trained human capital is required to achieve maximum performance. Starting from the mentioned objective, to demonstrate the efficiency of using an ERP system and for a maximum of performance as well as for an ecological reporting, we performed a statistical test.

Our research proved that the ERP system for integrated reporting is the most appreciated by the respondents for the fact that the system provides accurate information according to the requirements applied and it is easy to use.

In the context of this reporting, the system was considered an efficient solution, offering both the possibility of financial reporting and integrated reporting. In addition, the system can offer an ecological reporting because it has the electronic archive and generates data as concrete and accurate as possible. This aspect was also analysed through the vision of the Romanian respondents, who appreciated the benefits of such a system. They also pointed out that such a system can lead to overall performance if human capital is well prepared and knows how to use the system correctly.

Based on the answers from the questionnaire, ERP users (trained employees) benefit from concrete data and exactly without the need for data processing need. Users of real reports generated by ERP (management, public, investors, etc.) benefit from the accessibility of information and their correctness. All the mentioned users benefit from the ecological use of the resources, because the electronic reports are more ecological than the printed reports.

The obtained results validated the model and the objective. Through the proposed variable, namely, the integrated and ecological reporting using an ERP system, we established the elements on which it had the strongest influences. We also determined the usefulness of the system, of the human capital, and which were their contribution to the optimal tasks performance. Another result was that the use of ecological and integrated reporting influences all key elements of societies. These are: ERP system – human capital – end customer – global profitability at the company level. All the above were put under statistical evaluation. In future research we will analyse the costs involved in such an ERP system and the training of staff employed for its use.

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THE EFFECTS OF THE ANNUAL PUBLICATION OF NON-FINANCIAL INFORMATION ON THE PRICE OF SHARES OF THE COMPANIES LISTED ON THE BUCHAREST STOCK EXCHANGE

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Abstract
The first objective of this study is to identify how companies whose securities are admitted to trading on a regulated market and which at the balance sheet date exceed the criterion of having an average of 500 employees starting with the financial year 2017, have included as of 01.01.2017 in the directors' reports a non-financial statement or in a separate report by 30 June, as required by Directive 2014/95 / EU for the reporting of non-financial and diversity information.
The second objective aims to quantify the implications of reporting / non-reporting of non-financial information on the share price after the date of publication of this information.
The analysis was performed on non-financial information published by 26 non-financial companies (eight companies where the majority holder of shares is the Romanian State, 18 companies with wholly private capital), listed on the Bucharest Stock Exchange in the period 2018–2019, their number representing a percentage of 30.5% of the total of 85 existing at the time of the research.
The answers to the questions highlighted the fact that the reporting of non-financial information was not done uniformly, in the sense that the companies published information in various formats, cases were identified in which the reporting deadline was exceeded, the publication of mandatory non-financial information was not performed by all companies in the sample and was not made according to the GRI (Global Reporting Initiative) indicators.
Regarding the dynamics of the share price depending on the publication or non-publication of non-financial information, a correlation could not be established between the two processes, the price change does not seem to have taken into account the publication or non-publication of non-financial information in comparison to other mechanisms not related to the publication of this type of information.

Keywords: *corporate social responsibility, non-financial information, reporting format, share price*

1. INTRODUCTION

Corporate social responsibility (CSR) is a concept defined and applied differently from one country to another and from one company to another.

However, most specialists consider that CSR has two main components. The first component is sustainability, defined as “meeting today's needs without sacrificing the ability of future generations to meet their own needs” (Brundtland Commission Report, 1987). This definition highlights the essential intention to compromise, especially with regard to the conservation of non-renewable resources and a more realistic understanding of the economic network that determines the use of resources in the world. Debates about concept sustainability have focused mainly on the relative value of the word “needs” and the fact that “needs” vary widely in different parts of the world, depending on the degree of development. The second component is the Triple Bottom Line concept (TBL or 3BL).

This concept was first defined by Spreckley (1981), who considered that companies should measure and report information on financial performance, social welfare creation and environmental responsibility. Subsequently, the definition was supplemented by Elkington and Rowlands (1999), who emphasized that the business objectives of companies are inseparable from the society and the environment in which they operate. In other words, the failure to take into account the impact of the two aspects would make the activities of companies unsustainable.

By applying Directive 2014/95 / EU – Directive on the reporting of non-financial and diversity information, a clear course has been drawn towards greater transparency of both business and socio-environmental issues. It permitted the 28 Member States plus the other two members of the European Economic Area (Norway and Iceland), to impose specific requirements on companies at national level taking into account three aspects of reporting: the reporting framework (international, European and national), the reporting format in the directors' report or in a separate report) and the content of the report.

This study aims to assess how the publication or non-publication of non-financial information influences the evolution of the price of securities listed by a number of 26 companies on the Bucharest Stock Exchange. Another objective is to identify if and what mechanisms there are that determine this influence, considering that the publication of this information is mandatory starting with 2017. Following the evaluation of the process it can be said if they have complied and in what form.

2. SYNTHESIS OF THE LITERATURE ON THE REPORTING OF NON-FINANCIAL INFORMATION

Research on the impact of publishing certain non-financial indicators on investor decisions has been conducted since the 1990s in various fields of activity, such as the telecommunications industry (Amir & Lev, 1996) or the biotechnology industry (Yang, 2008).Thus, Amir and Lev (1996) examined the relevance of financial and non-financial information published by an independent mobile phone company on the value of its guarantees, concluding that non-financial indicators, such as the evolution of POPS (Persistent Organic Pollutants – pesticides, industrial chemicals, which are harmful to living organisms) and market share, are more relevant than financial ones, which refer to earnings and cash flow. In turn, Yang (2008) studied the importance of non-financial information related to intangible assets for investors in the biotechnology industry in the process of evaluating long-term financial performance. The result suggests that non-financial information on patents captures the value of companies in the field of biotechnology, without being evaluated by traditional accounting measures.

In the following period, Watkins (2000) studied the relationship between non-financial information and classical hospital financial reporting, finding that non-financial information is both a distinct feature of the hospital's financial performance and that it plays a significant role in terms of rating of bonds.

Reck (2001) also assessed the impact of adding non-financial information to reports containing financial information, aiming at the association between non-financial information, allocated resources and evaluating the performance of staff involved in the government budgeting process. The result was that allocation decisions did not take into account non-financial information, but were taken into account in assessing the performance of that government agency and its director. Also, even in conditions of budget deficit, non-financial information did not influence budget allocation decisions.

During the same period, Robb et al. (2001) studied the factors that determine how data are presented in non-financial statements in Australia, Canada and the United States. According to the results obtained from the application of various regression tests, large companies and firms with access to the world market, offer in their directors' reports, higher levels of both non-financial disclosures both historical and future-oriented, with minimal industrial and country effects.

Another area of interest for the study was represented by the role that non-financial information has in the audit planning process. Thus, Cohen et al. (2008) proposed an exercise in which students were helped when assessing a client's stocks to learn how to explicitly consider non-financial information and understand the importance of integrating this information with other financial data. Also referring to the correlation between financial and non-financial information, Mironiuc and Țăran (2015), showed for a sample of 10 companies listed on the Bucharest Stock Exchange, insolvent during 2009-2013, the levy of financial indicators compared to non-financial information in the case of insolvency risk detection activities.

Also, Rezaeea and Tuo (2017), identified following a study conducted on a sample of 580 reports published in 2010, which contained non-financial information, that managerial motivations and the content of this information (related to production, competition, customers, trends), play an important role in assessing the background and consequences of non-financial statements. Specifically, they found that quality income is a more pronounced factor in influencing anticipatory non-financial statements while ownership cost is a more pronounced factor in influencing historical non-financial statements.

Chauhan and Kumar (2018) investigated the impact of non-financial communication on the value of the company for a large sample of Indian companies operating in a developing market, which offers poor protection to investors. The result was that reporting non-financial information is more valuable to independent firms than firms in a business group and that the positive valuation effects associated with the non-financial statement can be attributed to lower expenses and higher cash flows.

3. EUROPEAN AND NATIONAL NON-FINANCIAL REPORTING REQUIREMENTS

In April 2011, the European Commission identified the need for transparency of social and environmental information provided by businesses in all sectors – the Single Market Act, and on October 25 2011 made a legislative proposal, reiterated in the Communication "A New EU Strategy for corporate social responsibility".

In February 2013, the European Parliament confirmed the importance of presenting information on the social sustainability of businesses, in order to identify risks to sustainability and increase consumer and investor confidence.

Since 1997, the GRI (Global Reporting Initiative), an independent international organization, has initiated the issuance of sustainability reports, developing reporting standards to help organizations and governments around the world understand and communicate the impact of their economic activities have on climate change, human rights, governance and social welfare.

CSR Europe currently operates in Europe as the main European business network for corporate social responsibility. Through its network of 48 corporate members and 42 National CSR organizations bringing together over 10,000 companies, it acts as a platform for those companies that want to consolidate sustainable growth and contribute positively to society. In its mission to bring the sustainability agenda forward, CSR Europe transcends European borders and cooperates with CSR organizations in other regions around the world.

By applying Directive 2014/95/EU – the Directive on the reporting of non-financial and diversity information, a clear course has been drawn towards greater transparency of both business and social and environmental issues.

The publication of non-financial information confers a series of advantages regarding the increase of the trust of the interested parties, investors, clients, the civil society, emphasizes the integrity of the carried out activity, generates the continuous improvement of the impact that the business has on the environment.

Directive 2014/95/EU allowed the 28 Member States, plus the other two members of the European Economic Area (Norway and Iceland), to impose specific requirements on companies at national level taking into account three aspects of reporting: the reporting framework (international, European and national level), the reporting format (in the directors' report or in a separate report) and the content of the report.

They also had the opportunity to define which types of organizations should apply the Directive by establishing the criteria that must be met by an organization to be defined as a large enterprise and which entities are in the public interest.

At the same time, the Directive allowed Member States to define whether or not reporting should be verified by an independent service provider and what are the sanctions in case the reporting is not compliant.

At European level, the obligation to report non-financial information is for enterprises that:

- are large enterprises, as defined in Directive 2013/34/EU, which at the balance sheet date exceed the limits of at least two of the following criteria for two successive reporting periods: total balance sheet 20.000.000 EUR, net turnover 40.000 EUR, the average number of employees during the financial year 250;
- are in the public interest, meaning any entity that trades securities on a regulated market within the Member States or a credit institution, insurance company or decanter by the Member States as a public interest entity;
- have during a financial year an average number of employees exceeding 500.

According to the Directive, companies must provide a brief description of the entity's business model, a description of the policies adopted by the entity in relation to these matters, including the due diligence procedures applied, the results of those policies, the main risks related to these issues arising from the entity's operations, including, where relevant and proportionate, its business relationships, products or services that could have a negative impact on those areas and how the entity manages those risks, key indicators of non-financial performance relevant to the specific activity of the entity, activities carried out in areas such as environmental protection, social protection of employees, respect for human rights, the fight against corruption and bribery.

The information shall be presented in the directors' report or in a separate report that is made available to the public within a reasonable period not exceeding 6 months from the balance sheet date, on the entity's website and is mentioned in the directors' report.

The reporting of information can be done starting from the national, European Union or international framework.

The Directive also provides for duly justified situations by members of the administrative, management and supervisory bodies where disclosure would seriously harm the business position of the undertaking, provided that such omission does not impede a fair and balanced understanding of the development, performance and position of enterprise. Some Member States have agreed to include the required declarations in the directors' report, which requires Directive 2013/34/EU to be verified by the statutory auditor or audit firm and which must express an opinion on its content with reference to the presented situations related to the reference year, to the observance of the legal requirements regarding its content.

Also, companies whose securities are admitted to a marketable market within the framework of any Member State are required to draw up a diversity report containing a description of the diversity policy applied to the administrative bodies, management and oversight of the entity on issues such as age, gender or education and professional experience, the objectives of this diversity policy, how it has been implemented and the results during the reporting period, and if such a policy is applied, the statement contains an explanation to that effect. And this must be verified by a statutory auditor or an audit firm.

At EU level, countries have adapted the provisions of the Directive in various ways. Thus, an analysis by GRI and CSR highlighted that the transposition of requirements such as: definition of large enterprises, public interest entities, content of reporting, reporting format, reporting framework, the involvement of the auditor, the sanctioning of non-communication, the protection of information that may affect the smooth running of the business, the publication of the statement of diversity, have either been tacitly adopted or have undergone changes or have not been adopted.

According to GRI and CSU statistics published in 2017, the transposition into national legislation of the 30 countries operating in the EU area of the eight requirements of the Directive, took place according to the presentation in Table 1.

Table 1. The transposition of the eight requirements of the Directive into national legislation of the 30 countries operating in the EU area

Requirement Name	**Adopted tacitly by members**	**Modified by members**	**Not adopted by members**
Definition of large enterprises	19	11	0
Definition of public interest entities	6	24	0
Content of the report	22	8	0
Reporting format	24	6	0
Reporting framework	7	23	0
Involvement of the auditor	20	10	0
Sanctioning of non-communication	0	27	3
Protecting information that may affect the smooth running of the business	25	0	5
Publication of diversity information	20	10	0

Source: GRI & CSR Europe

It can be seen that none of the 30 countries has fully transposed the provisions of the Directive, and requirements such as the definition of public interest entities and the reporting framework have been adopted without changes in only 20% and 30% of all Member States respectively.

Moreover, countries such as Estonia, the Netherlands and Spain have not specified in their national legislation sanctions for non-publication of financial information, and Denmark, France, Norway, Slovakia, plus Estonia have not provided for the application of the "Safe Harbor" principle.

In a transposition hierarchy, Finland ranks first with eight out of nine requirements, followed by Ireland with seven out of nine, Cyprus, Germany, Luxembourg, Malta with six out of nine.

Regarding Romania, according to GRI statistics, the transposition of the provisions of Directive 2014/95/EU was done for only four requirements (reporting format, reporting framework, "Safe Harbor" principle and diversity statement), the remaining five requirements being adapted.

Thus, the Order of the Minister of Public Finance no. 1938/2016 on amending and supplementing some accounting regulations, updates the Order of the Minister of Public Finance no. 1286 of 2012 approving Accounting Regulations in accordance with International Financial Reporting Standards, applicable to companies whose securities are admitted when trading on a regulated market, introduces the obligation for both public entities and those whose securities are admitted to trading and which at the balance sheet date, exceed the criterion of having an average number of 500 employees during the financial year 2017, to include a non-financial statement in the directors' reports or in a separate report by 30 June.

4. METHODOLOGICAL ASPECTS: SAMPLE SELECTION AND RESULTS

The present study has two objectives. The first objective is to identify the way in which companies whose securities are admitted to trading on a regulated market and which at the balance sheet date exceed the criterion of having an average number of 500 employees during the financial year 2017, have included since 01.01.2017 in the directors' reports a non-financial statement or a separate report until June 30.

The second objective aims to quantify the implications of reporting / not reporting non-financial information on the share price for different periods of time.

To achieve the two objectives, I tried to answer the following questions:

- how was the required non-financial information published in the directors' report, or separately in a report issued by 30 June and was the deadline for publication was met?
- what is the content of the published information and does it comply with the requirements of national and international standards?
- how has the publication / non-publication of non-financial information influenced the evolution of the share price of the respective companies?

To obtain the result, I examined the reporting documents downloaded from the BVB website or from the companies' website, in order to identify how the required requirements and publication deadlines are met, the data being centralized in the form of a table to facilitate interpretation. Subsequently, I followed with the help of the graphs provided on the website of the Bucharest Stock Exchange, the evolution of the share price in the period 2018–2019.

The analysis was performed on non-financial information published by 26 non-financial companies, listed on the BSE in this period, (eight companies in which the Romanian State is a majority shareholder, and 18 with full private capital), their number representing a percentage of 30.5% of the total of 85 existing at the time of the research. The sample of companies is presented in Table 2.

Table 2. The companies that have been the subject of the analysis, the majority holder and their field of activity

Name of the company	Field of activity	Majority Shareholder	Size of the company Average nr. of employees 2017	2018
Antibiotice SA	Drug production	Romanian State	1.420	1.415
Conpet SA	Oil transport	Romanian State	1.666	1.635
SN Nuclearelectrica SA	Electricity production	Romanian State	1.975	2.002
SNGN Romgaz SA	Natural gas extraction	Romanian State	6.046	5.604
Oil Terminal SA	Crude oil loading and unloading	Romanian State	942	927
Oltchim SA Rm. Vîlcea	Chemical supply	Romanian State	1.95	1.814
CNTEE Transelectrica SA	Electricity transport	Romanian State	2.063	2.102
SNTGN Transgaz SA	Pipeline transport	Romanian State	4.548	4.284
OMV Petrom SA	Oil and natural gas extraction	Private	13.322	12.498
KMG Rompetrol SA	Manufacture of products obtained from crude oil	Private	1.061	1.126
Alro SA	Aluminum metallurgy	Private	2.501	2.549
Comelf SA	Manufacture of mining and construction equipment	Private	1.024	842
Compa SA	Production of automotive components	Private	2.031	2.094
Digi Communications NV	Telecommunications	Private	11.900	13.723
Electromagnetica SA	Production of electricity distribution and measurement equipment	Private	577	479
Electroputere SA	Manufacture of electric motors, generators and transformers	Private	744	694
Medlife SA	Specialized healthcare activities	Private	1.745	2.193
Romcarbon SA	Manufacture of plastic packaging articles	Private	941	924
Ropharma SA	Retail sale of pharmaceutical products in specialty stores	Private	745	727
Sphera Franchise Group	Fast food restaurants and packaged food	Private	4.492	5,500
TMK - ARTROM SA	Production of tubes, pipes, tubular profiles	Private	1.324	1.457
Turism Felix SA	Hotels and other accommodation facilities	Private	727	721
UAMT SA	Manufacture of other parts and accessories for motor vehicles	Privat	526	474
Vrancart SA	Manufacture of paper and corrugated cardboard and paper	Privat	1.072	1.133
Zentiva SA	Manufacture of pharmaceutical products	Privat	511	511

Source: data processing published on the website of Bucharest Stock Exchange

Question 1: How was the mandatory non-financial information published in the directors' report, or separately in a report issued by 30 June and was the publication deadline met?

Regarding the publication method, the analysis showed that in 2018, non-financial information was published under various names, both in the directors' report under the name corporate and social responsibility (Digi Communication NV), non-financial information (Medlife SA) or separately in various forms, the non-financial statement (Comelf SA, Compa SA, Electromagnetica SA, Electroputere SA, Romcarbon SA), sustainability report (Alro SA, Oltchim SA RM Vîlcea, OMV Petrom SA, KMG – Rompetrol SA, TMK – Artrom SA, Vrancart SA), non-financial report (Antibiotice SA, Zentiva SA).

At the same time in 2018, two companies either published in the directors' report the non-financial statement stating that “the company does not have data on the current and foreseeable impact of its operations on the environment and cannot estimate the influence on health and safety and cannot estimate the impact on climate change. which has the use of the goods produced by the company” (UMAT SA), or did not publish in the report of the administrators any non-financial information (Turism Felix SA), aspect notified by the Financial Supervisory Authority.

In 2019, the information was published by five companies in the directors’ report in the form of a non-financial statement (Transgaz SA, Oilterminal SA, Conpet SA, Comelf SA, UAMT SA), other five in the form of a section containing information on corporate social responsibility (Aerostar SA, Alro SA, Medlife SA, Digi Communication NV, CNTEE Transelectrica SA) or in the form of a non-financial report (SN Nuclearelectrica SA).

Also, apart from the directors’ report, six companies (SNGN Romgaz SA, OMV Petrom, KMG Rompetrol SA, Sphera Francise Group, TMK – Artrom SA, Vrancart SA), published sustainability reports, three companies, non-financial reports (Antibiotice SA, Oltchim SA Rm Vîlcea, Zentiva SA), but also non-financial statements (four companies Compa SA, Electroputere SA, Electromagnetica SA, Romcarbon SA), and in the case of two companies the publication of non-financial information in a form or another (Ropharma SA, Turism Felix SA).

It can be noted that two companies, which even if they had in 2018 an average number of employees under 500, published non-financial information, UAMT SA in the directors’ report and Electromagnetica SA separately in the form of a non-financial statement.

Regarding the observance of the publication deadline, in 2018 out of a total of 26 companies, twelve companies submitted the data in the directors’ report within the legal deadline of 4 months from the end of the financial year, seven published the information in separate reports in the first six months of 2018, seven after the legal deadline (one with a delay of five days KMG Rompetrol SA), two with a delay of nine days (Oltchim SA Rm.Vîlcea, OMV PETROM SA), one with a delay of four months (Antibiotice SA), two with delays of more than six months (Compa SA – seven months and Romcarbon SA – eight months).

In 2019, eleven companies submitted the data in the directors’ report within the legal deadline of 4 months from the end of the financial year, nine published the information in separate reports by the deadline of June 30, four after the legal deadline (Electromagnetica SA – delay of two days, KMG Rompetrol SA – delay of 31 days, Antibiotice SA – delay of 116 days, Compa SA – delay of 150 days).

With regard to the date of publication of non-financial declarations/reports or accountability reports, compared to the date of publication of the directors’ report in 2018, two of the companies published these documents prior to the annual raport (CNTEE Transelectrica SA, TMK – Artrom SA), but in some cases the publication of this information was made within more than 60 days from the date of publication of the directors’ report (Antibiotice SA, Oltchim SA, SNGN Romgaz SA, OMV Petrom SA, KMG Rompetrol SA, Compa SA, Electroputere SA, Romcarbon SA, Vrancart SA, Zentiva SA).

In 2019, again, TMK – Artrom SA published this document prior to the annual raport, but also there were delays in the publication of these documents compared to the date of publication of the directors’ report, more than 60 days (Antibiotice SA, OMV Petrom SA, KMG Rompetrol SA, Compa SA, Electromagnetica SA, Sphera Franchise Group).

Question 2: What is the content of the published information and does it comply with the requirements of national and international standards?

Regarding the way in which companies comply with the type of information required by the national and European legal norm, it can be noted that not all types of information have been published in one form or another.

The analysis was performed from two perspectives, both globally following the number of companies that did not publish the required non-financial information, but individually and at the level of each entity.

The situation of the entities that did not publish all the requested information, presented by types of information and years of publication is presented in Table 3.

Table 3. The situation of the companies that did not publish all the requested information

Information type name	**2018**	**2019**
Brief description of the entity's business model	9	7
Description of the policies adopted by the entity in relation to these issues	9	6
The results of that policy	11	6
Main measures related to these issues arising from the entity's operations	12	6
Key non-financial performance indicators relevant to the entity's business	14	12
Current and foreseeable impact of the entity's operations on the environment – use of renewable and non-renewable energy, greenhouse gas emissions	8	10
Actions to ensure gender equality, implementation of the fundamental requirements of the International Labor Organization, working conditions, social dialogue, health and safety at work	6	3
Prevention of human rights abuses and / or instruments to combat corruption and bribery	8	5
Implications for climate change and the use of goods and services that it produces as well as its commitments to sustainable development	14	14
Commitments to sustainable development, the fight against food waste	18	23
Commitment to combating discrimination and promoting diversity	8	6
Publication of the diversity report	6	17
Verification by the financial auditor of the preparation of this non-financial statement.	7	19

Source: data processing published on the website of Bucharest Stock Exchange

The analysis of this information shows that in 2018, more than half of the sampled companies did not comply with the requirements for publishing information on key non-financial performance indicators relevant to the entity's business (14), the consequences of climate change and the use of assets. and the services it produces as well as its commitments to sustainable development (14), commitments to sustainable development, the fight against food waste (18). Also, in 19 cases, the published information was not verified by an independent auditor, legal obligation according to the provisions of art. 4925 of OMFP no. 1938 / 2016, updated ("Statutory auditor or statutory audit firm verifies whether the non-financial statement has been provided referred to in point 4921 or the separate report referred to in point 4924").

In 2019, it is noted that 23 companies did not publish information on commitments to sustainable development, the fight against food waste, in 19 cases the non-financial statement was not verified by a statutory auditor, 17 did not publish the report diversity, 14 did not publish information on the consequences of their work on climate change and sustainable development commitments.

The situation of the annual publication of non-financial information by company type, including the report of the statutory auditor or the audit firm, is presented in Table 4.

Table 4. The situation of the annual publication of non-financial information by company type

Number of published non-financial information requirements (including auditor's report)	Companies that published non-financial information (including auditor's report) 2018	Majority shareholder		Companies that published non-financial information (including auditor's report) 2019	Majority shareholder	
		State	**Private**		**State**	**Private**
13	2	1	1	1	0	1
12	4	0	4	2	0	2
11	2	2	0	5	0	5
10	2	2	0	3	0	3
9	2	1	1	2	1	1
8	4	0	4	4	3	1
7	1	0	1	3	2	1
6	1	1	0	1	0	1
5	1	0	1	0	0	0
3	2	1	1	1	0	1
2	3	0	3	1	0	1
1	1	0	1	1	1	0
0	1	0	1	2	0	2
Total	**26**	**8**	**18**	**26**	**7**	**19**

Source: data processing published on the website of Bucharest Stock Exchange

Therefore, it can be observed that in 2018 only a number of two companies out of a total of 26 subject to research (7.69% of the total) complied with the legal requirements, one with majority state capital (SN Nuclearelectrica SA), and the other with capital with private capital (Vrancart SA).

The hierarchy is continued by five companies, all with majority private capital (Alro SA, KMG Rompetrol SA, OMV Petrom SA, TMK ARTROM SA) which complied for 12 of the total of 13 requirements and four companies with full state capital complied 11 requirements (Conpet SA and SNGN Romgaz SA), respectively ten requirements (Antibiotice SA and Oltchim SA Rm. Vîlcea). As for the companies that complied with less than half of the required number of requirements, they are eight, which represents 30.7% of the total (examples – six requirements SNGN Transgaz SA, five requirements – Medlife SA, three requirements – CNTEE Transelectrica SA, two requirements – Electroputere SA, Ropharma SA, Sphera Franchise Group, one requirement – Turism Felix SA).

Regarding the situation for 2019, only one company complied with the 13 requirements (TMK Artrom SA), two complied with 12 requirements (OMV Petrom SA, Sphera Francise Group), five with 11 requirements (SNGN Romgaz SA, Aerostar SA, Alro SA, Romcarbon SA, Zentiva SA), three for ten requirements (KMG Rompetrol SA, Electroputere SA, Vrancart SA), two for nine requirements (Oilterminal SA, Electromagnetica SA), three for seven requirements (Oltchim SA RmVîlcea, SNGN Transgaz SA, Medlife SA), one for six requirements (UAMT SA), three requirements (Digi Communication NV), two requirements (Comelf SA), one requirement (CNTEE Transelectrica SA, SN Nuclearelectrica SA). In dynamics, the situation of publishing information on the company is presented in Table 5.

Table 5. The situation of publishing non financial information on the company

Dynamic information Publishing	Company Name	2018	2019
Growth	Electroputere SA	2	10
	Romcarbon SA	8	11
	Aerostar SA	8	11
	Sphera Franchise Group	2	12
	Zentiva SA	7	10
	UAMT SA	0	6
	SNGN Transgaz SA	6	7
	Medlife Sa	5	7
Stagnation	Oilterminal SA	9	9
	SNGN Romgaz SA	11	11
	OMV Petrom SA	12	12
	Electromagnetica SA	9	9
	TMK Artrom SA	13	13
	Compa SA	8	8
Down	Oltchim SA Rm Vîlcea	10	7
	KMG Rompetrol SA	12	10
	Digi Communication NV	8	3

Source: data processing published on the website of Bucharest Stock Exchange

Regarding the publication of information respecting the format of indicators promoted by GRI (Global Reporting Initiative), if in 2018 only three out of 26 companies whose majority shareholding is private, published information referring to indicators promoted by GRI (examples Alro SA , KMG Rompetrol SA, OMV Petrom SA, TMK – Artrom SA), in 2019 there is an increase in the number of companies that have published in this form, these being nine, three with majority state shareholders (Antibiotice SA, SNGN Romgaz SA, SNTGN Transgaz SA), two with partial state shareholding (KMG Rompetrol SA, OMV Petrom SA) and six with fully private capital (Alro SA, Sphera Franchise Group, TMK – Artrom SA, Vrancart SA).

Question 3: How has the evolution of the share price of those companies influenced the publication/non-publication of non-financial information?

The analysis was carried out on the value of the shares of the sampled companies for the four situations encountered on the first day following the publication of : non-financial information prior to the issuance of the directors' report, the directors' report containing non-financial information, the directors' report which does not contain non-financial information and after the issuance of the directors' reports under the name of non-financial statement, non-financial report or sustainability.

A. The publication of non-financial information prior to the issuance of the directors' report was made only in 2018 by two companies (CNTEE Transelectrica SA and TMK – Artrom SA), by issuing sustainability reports, the value of their shares on the first day after the publication of the document, growth (CNTEE Transelectrica SA), repetitive stagnation (TMK – Artrom SA).

In 2019, one of the companies published these documents prior to the annual raport (TMK –Artrom SA), and the value of the shares growth on the first day after the publication of the document.

B. The publication of financial information in the directors' report of the directors was made by 11 companies in both 2018 and 12 in 2019.

According to the centralised situation listed in Table No.6, in 2018, on the first day after publication, only in one case did the share price increase (Sphera Franchise Group), and in 2019 in five cases (Conpet SA, SN Nuclearelectrica SA, Digi Communication NV, Medlife SA, UAMT SA). As regards the stagnation of the share price after the date of publication, there were no price stagnation in 2018, with two cases (Aerostar SA, Romcarbon SA) recorded in 2019. The decrease in the share price after publication occurred in 10 situations in 2018 (Conpet SA, SN Nuclearelectrica SA, Oilterminal SA, SNTGN Transgaz SA, Aerostar SA, Comelf SA, Digi Communication NV, Medlife SA, Ropharma SA, UAMT SA) and five in 2019 (Oilterminal SA, SNTGN Transgaz SA, CNTEE Transelectrica SA, Alro SA, Comelf SA).

Table 6. The situation of the share price on the first day after publication of the directors' report

Period	**Growth**		**Stagnation**		**Down**	
	2018	**2019**	**2018**	**2019**	**2018**	**2019**
The first day after publication	1	5	0	2	10	5

Source: data processing published on the website of Bucharest Stock Exchange

C. The result of the analysis carried out on the evolution of the share price of companies, which did not published information in the directors' report issued in 2018, highlighted the fact that 12 companies subsequently issued reporting documents (non-financial statements, sustainability reports) and one did not publish either in the directors' report or separately in any other form (Tourism Felix SA), as shown in Table 7.

Thus, on the first day after its publication, the value of the shares, increased in three cases (Electromagnetica SA, Romcarbon SA, Turism Felix SA), stagnated in two cases (SNTGN Romgaz SA, KMG Rompetrol SA) and decreased in the case of eight companies (Antibiotice SA, Oltchim SA, OMV Petrom SA, Alro SA, Compa SA, Electroputere SA, Vrancart SA, Zentiva SA).

In 2019, out of the total of 15 companies that did not declare non-financial information in the directors' report, 13 completed reporting documents separately and two Rompharma SA and Turism Felix SA did not refer to this type of information either in the directors' report or separately in another document. As a result, on the first day after the publication of the directors' report for 2018, which did not contain non-financial information, the value of the shares of seven companies increased (Antibiotice SA, SNGN Romgaz SA, OMV Petrom SA, Electroputere SA, KMG Rompetrol SA,Vrancart SA, Zentiva SA), in four cases it stagnated (Romcarbon SA, Rompharma SA, Sphera Franchise Grop, Turism Felix SA) and in four cases it decreased (Oltchim SA, Compa SA, Electromagnetica SA, TMK – Artrom SA).

Table 7. The situation of the share price of companies that did not publish information in the directors' report on the first day after publication

Period	**Growth**		**Stagnation**		**Down**	
	2018	**2019**	**2018**	**2019**	**2018**	**2019**
The first day after publication	3	7	2	4	8	4

Source: data processing published on the website of Bucharest Stock Exchange

D. The publication of non-financial information separately under the name of non-financial statement, non-financial report or sustainability report after the issuance of the directors' reports was made in 2018 after the issuance of the directors' reports by 12 companies. Thus, the share price increased on the first day of publication in four cases (Oltchim SA, KMG Rompetrol SA, Alro SA, Electromagnetica SA), stagnated in two cases (SNGN Romgaz SA, Zentiva SA) and decreased in six cases (Antibiotice SA, OMV Petrom SA, Compa SA, Electroputere SA, Romcarbon SA, Vrancart SA).

For 2019, they published in this form 12 companies of which one has been delisted (Oltchim SA Rm Vîlcea) since 23 April 2019.

On the first day after the pubication of those documents, the share price increased in six cases (Antibiotice SA, Electroputere SA, OMV Petrom SA, KMG Rompetrol, Vrancart SA, Zentiva SA), stagnated in four (Compa SA, Sphera Franchise Group, Romcarbon SA, Oltchim SA) and fell in two (SNGN Romgaz SA, Electromagnetica SA).

Table 8. The situation of the share price of companies that publish information in a separate report on the first day after publication

Period	**Growth**		**Stagnation**		**Down**	
	2018	**2019**	**2018**	**2019**	**2018**	**2019**
The first day after publication	4	6	2	4	6	2

Source: data processing published on the website of Bucharest Stock Exchange

5. CONCLUSIONS

The research showed that the reporting of non-financial information for the period 2018–2019 was carried out heterogeneously, not all companies met the reporting deadline of four months from the end of the financial year for the directors' report or separately in a report issued by 30 June (seven in 2018 and four in 2019).

Furthermore, ten companies in 2018 and six in 2019, published the separate report with a delay of more than 60 days after the date of publication of the directors' report.

The way of reporting on types of non-financial information has not dynamically seen an improvement from year to year. Thus, in 2019, compared to 2018, in the case of eight categories of information out of the total of 13 requested, the number of companies that published this information decreased.

In terms of company reporting, out of the total of 26 companies only two in 2018 and one in 2019 published all mandatory non-financial information, and reporting according to GRI indicators was carried out by only three companies in 2018 and nine in 2019.

With regard to the value dynamics of actions, a clear correlation has not been identified that the business environment takes account of the publication or non-publication of this information in the directors' report. Proof of this is the evolution of the share price in both companies which published non-financial information in the directors' report and those which did not publish such information in that document.

Thus, in 2018 on the first day after the publication of the directors' report containing non-financial information there was a single increase and ten decreases in share values, for those who did not publish such non-financial information in the report the directors' report, there were three increases and eight decreases, and after the publication of that information in the form of another type of reporting, the value of shares increased in four cases and decreased in six.

In 2019, when non-financial information was published in the directors' report, the value of the shares increased in five cases and decreased in five other cases, after the non-publication of this information in the directors' report increased in five cases and decreased in four cases, the subsequent publication of the sustainability/non-financial statement report, etc., resulted in an increase in six cases and a decrease in two. The last situation may be only a positive coincidence or a signal that investors have started to take into account the publication of such information.

As regards the comparison of the results obtained with the existing ones, we have not identified a similar study done on this subject, and with regard to future research, we consider studying the role that the independent auditor has in the verification process of the information published in the directors' report.

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HUMAN CAPITAL INTEGRATED REPORTING. AN ESSENTIAL FACTOR IN ACCOUNTING AND REPORTING IN THE BALANCE SHEET AND OTHER FINANCIAL STATEMENTS

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Abstract
The objective of this research is to identify the importance of human capital integrated reporting. This research starts from the idea that human capital is an essential factor in the companies activity, but the presentation of its is limited. This topic research is important signalling the deficiencies regarding to human capital and financial reporting. Financial statements are the most complex method to know and understand a company, but the core of companies is omitted. Integrated human capital reporting starts from the need to change current accounting. The aim of this research is to identify if human capital is a cost or a long-term investment; and if it must be presented in financial statement as a profitability indicator or a balance sheet item along with the other company assets. If we are following the information proposed by the financial statements from Romania, we notice that our attention is guided to the value of fixed assets, the degree of company indebtedness and the value of equity. The research made a reflection of standards perception on human capital, and in parallel the Romanian economists perception. For analysis, the quantitative research was used. Based on the questionnaire, was statistically analyse the respondents opinion. Thereby, based on the answers received, can be drawn the respondents' perception on the inclusion of human capital in accounting and its presentation in the financial statements. The results show the need for a new change in accounting and financial reporting in current economy.

Keywords: *financial statement, human capital, international reporting, Romania national reporting*

JEL Classification: A10, B10, C10, M10

1. INTRODUCTION

Legislative alignment, recognition of human capital in accounting and presentation of complete human resources information are aspects that have been exposed in the Romanian economic environment. Human capital is an unexplored subject in knowledge economy. Considering the fact that in a company there are two types of resources, human and material ones, experience has shown that human resources are the most important due to the fact that are the only ones who can control the other types of resources. This article started from the importance of recognizing human capital in the companies financial statements, regardless of the standard they apply. Knowledge of human capital is considered a must-have for those who know the company through financial statements. Human capital is the answer to all presented information to internal and external users, and its non-recognition is a minus of financial statements. The companies longevity on economic competitive market is given by the quality of human capital. In Romania, The Order of Public Finance Ministry no. 1802/2014 is the financial statements applicable standard. For exceptions are companies that are part of international companies group. In this case, those companies have to apply the parent company standard, which is usually International Standards of Financial Reporting. At the same time, in Romania, the human capital presentation is limited only to an analysis of its evolution over a financial year. The attention that a company has on the development, innovation and addition of value to the activity it carries out, is given by the investment it has in human capital. It is surprising to find out that the external environment can know human capital through financial information presented in the financial statements. Thereby, in the financial statements notes are presented employees cost values. Human capital is an integral part of intellectual capital, one of the most important elements for a company. Is the engine that determines the proposed objectives achievement. It is the key element without a company could not function. In companies, human resources are beginning to be capitalized and managed as the most important resources, due to the fact that in the economic field things are starting to be automated and the added value is given only by human capital, due to in-depth knowledge, analyzes performed, critical thinking and involvement in the company evolution. Trainings and internal courses produce skills that can be understood as expectations of future performance within companies. Recognition of human resources investments raises the issue of these assets depreciation. The life expectancy of human investments depends on many factors such as: the life of employees within the companies; social climate; probability of employment breach; accumulated knowledge depreciation. Another identified issue is whether human capital is really a cost to the company or a long-term investment. Therefore, this research wants to identified if is whether the information presented in accounting and financial statements regarding human capital are sufficient. The study wants to identify whether the accounting and financial statements should be subject to changes. The proposed approach is to emphasize the importance of integrated human capital reporting.

This article is divided into five sections: literature review – human capital perception in the literature and accounting standards; research questions – the main questions on which the research is based; research methods – the methodological part utilized; findings – statistical analysis of the proposed research; conclusions – how accounting can change.

2. LITERATURE REVIEW

If human capital value can be separately presented in financial statements and profit and loss account, it was also a problem raised by a group of American Professors (Brummet, 1968), concluding that human capital presentation at historical cost does not shows the real value at the analysis time (Dumitrana et al, 2012, pg. 9).

It is considered that importance of presenting intellectual capital was recognized by Robert S. Kaplan and David P. Norton who proposed in 1992, in the Harvard Business Review, through the Balanced Scorecard model, to look at the organization from four perspectives (the perspective of learning and growth, internal, customer and financial processes) (Jianu & Bratianu, 2007, pg. 6).

Another aspect on the human capital current position is the lack of legislative alignment that determines the limitation to the voluntary presentation of indicators and minimal information that would, however, attest the importance of human capital for the company. The weight value with which human capital is loaded, reflects the stop in the literature on the classical valuation models of an asset, and Dr. Nick Bontis, one of the reference names of this concept, considers that the measurement of intellectual capital is considered a cost accounting extension on human resources (Bontis, 2002, pg. 3).

International Accounting Standard 38 – "Intangible Assets" (2014) presents that intellectual capital components are generated internally and cannot represent an investment, but a direct expense. Actually, is a situation attested by current accounting. Therefore, the human capital value is represented by the employees cost and occasional training courses value.

Human capital is a competitive advantage of companies, and according to Rambaud and Richard (2017, pg. 4) "can be connected to the famous corporate dualism: on the one hand, organizations claim that people are the most important asset, but on the other hand, do not include them in financial reporting".

These shortcomings of current accounting make it impossible for the company to know the human capital, on the one hand, and on the other hand, the human capital remains at the stage of imagining the value it brings to the company. Identifying the real values of human capital is an advantage that the company has, by objectively evaluating its performance (Baldi & Trigeorgis, 2020, pg. 17). Knowing the individual value of human capital would be helpful for its subsequent accounting.

Moment zero of intellectual capital reporting concept is dated by Skandia, followed by PLS Consult, Ramboll, Consultus, Telia, ABB, Sparekassen Nordjylland, The Swedish Civil Aviation Administration, Sparbanken Sverige, WM Data (The Danish Trade and Industry Development Council , 1997, pg. 6). What is decisive in their case is that the lack of alignment of the reports make it impossible to compare the information about intellectual capital.

A study case made by Siti Mariana Taliyang et al in 2014, on a sample of 185 listed companies showed that 69% of listed companies presented in their financial statements the situation of intellectual capital. It is revealing that the most companies analysed are aware of the value and influence of their human capital (Taliyang et al., 2014, pg. 6). Thereby it is a clear absence of this information in the annual situations presented by small and medium companies.

Another situation found in the research is whether the image of companies determined by the published financial reports is real and complete, given that there is an absence of information on this concept. We can say that the financial statements are made, but do not tell the whole story (Passard et al., 2012, pg. 1).

The issue of including human capital in accounting was also addressed by Professor Chris Higson of "London Business School" (2016), who believes that human capital value can be brought by the already accounted value of intangible assets. Another approach regarding to the impossibility of recognizing human capital value, and its recognition in financial statements, is that of the perspective proposed by Generally Accepted Accounting Principles (United States). According to this standard employees act under the responsibilities and obligations established under an employment contract to provide services in the future, which is the advantage. On the other hand, the organization undertakes to pay for the services provided by human resources, which is the obligation (the debt). The author brings the Generally Accepted Accounting Principles proposal as an answer. So the company pays a full and fair price for the services it receives, under the employment contract. In my opinion, the benefits brought by human capital following the provision of services can never be equated with the obligation paid by the company to it. In most cases, the contractual benefits of human capital are undervalued and are not paid proportional to the involvement and added value brought.

Regarding to International Accounting Standard no. 38 – "Intangible Assets" (2014), specifies that an item can be recognized as an intangible asset, if it can be identifiable, the entity can exercise control over if it generates future economic benefits (revenues or cost reductions).

The second condition regarding to intangible asset identification "arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations" (International Accounting Standard no. 38 – "Intangible Assets", 2014). Thereby, human capital can be controlled by the clauses of the individual employment contract. It generates future economic benefits and also through innovation and the knowledge it has, it can generate cost reductions.

The conditions proposed by International Accounting Standard no. 38 (2014) specify that this standard may be applied to assets that are acquired externally or generated internally. In both cases, the human capital can meet the conditions for recognition.

Human capital is presented as a cost of the period, as specified in the standard “requires the expenditure on this item to be recognized as an expense when it is incurred” (International Accounting Standard no. 38 – “Intangible Assets”, 2014). Nevertheless, this cost limits the real value of human capital.

Due to the fact that recruiting and training cost are company investment, which is expected to generate future economic benefits, they should be capitalized and recognized as an asset investment. As a result of these recognized investments, the human resource initial value can be determined. Subsequently, it can be updated depending on subsequent investments. An identified problem is that of the human capital lifespan, which is not fixed and secure. However, this aspect can be provided in the individual employment contract.

IAS 19 specifies that an entity “recognizes a liability where an employee has provided service and an expense when the entity consumes the economic benefits of employee service” (International Accounting Standard no. 19 – “Employee Benefits”, 2018). Therefore, the employee is recognized in accounting as a cost and a debt. However, the debt that company has on the employee is not equal to the benefits and the added value brought by human capital. There is no opportunity to recognize a counterbalance between debt and benefit.

IAS 19 brought to discussion the term “Short-term employee benefits”, which means “twelve months after the end of the annual reporting period” (International Accounting Standard no.19 – “Employee Benefits”, 2018). Thereby, the long-term and short-term recognition period is kept as the debts. If they are expected to be settled in the short term, is considered that a period of employee useful life and generation of economic benefits is identified.

In Romania, the financial statements are prepared in accordance with The Order of the Romanian Minister of Public Finance no. 1802/2014, with subsequent amendments. Therefore, in the financial statements notes, the information we can find about human capital are: the employees benefits, information regarding to administrative, management and supervisory members and other key persons (allowances granted, commitments on pensions, advances and credits). The information are presented in Note no. 3, from the financial statements notes.

It is observable that the benefits presentation provided is also specified in International Accounting Standard no. 26 (1987) “should include in their reports a statement of changes in net assets available for benefits”. Thereby, the information which can be find in the financial statements does not actually attest to information on directly productive human capital, which is in fact the engine of companies' activity”.

In the image below is presented information about human capital, according to The Order of the Romanian Minister of Public Finance no. 1802/2014. It should be specified that this portion has been translated into English, as the financial statements are prepared in Romanian.

Figure 1. Financial Statement Information about Human Capital

Allowances granted to members of administrative, management and supervisory bodies and other key persons

	2019 **(RON)**
Expenditure on salaries and benefits (*):	
Administrators	-
Directors	-
Other key-persons	-
	-

	31 december 2019 **(RON)**
Salaries paid at the end of the period:	-

Source: Own processing based on National Financial Statement

The image below shows an human capital indicator, presented in the 2019 annual financial statements of a Romanian company. It should be specified that this part has been translated into English, as the financial statements are prepared in Romanian.

Figure 2. Profitability indicator about Human Capital

Profitability Indicators	**N-1**	**N**
Return on capital employed		

Source: Own processing based on National Financial Statement

Thereby, from the information presented in financial statements about human capital, its real value, the key employees, the added value brought during a financial year are not attested.

It is noticeable that information about people who bring real success is omitted. Therewith, the presentation of some economic indicators that refer to human capital, is optional and is not applied by all companies. Intellectual capital reporting is a must-have of financial statements, given that its components represent three out of six capitals that an organization should provide information in integrated reports (Abhayawansa et al, 2019, pg. 2).

This reporting requirement should be met, for the beginning, from a legislative point of view, in order to increase awareness of the human capital reporting importance. The obligation of integrated human capital reporting could be implemented by effect on managers' remuneration or tax benefits to increase non-financial disclosure (Camodeca et al, 2019, pg. 15).

Novelty of including the intellectual capital concept in accounting, and the integrated reporting, represent a strong relation for the development of both concepts. Thereby, attention to integrated reporting also represents attention to intellectual capital (Stacchezzini et al, 2019, pg. 14).

It has been shown that preparing an integrated report, the degree of intellectual capital information disclosure, especially human capital information to the detriment of relational or structural capital, is increased (Terblanche et al, 2019, pg. 13). At the same time, it is known that as an informational presentation about intellectual capital reveals the strategy, business model and performance of a company (Stacchezzini et al, 2019, pg. 14).

3. RESEARCH QUESTIONS

Is human capital the missing element in presenting financial statements?; Is human capital a company investment but not only a cost?; Is human capital a benefits generator?; Is it necessary to include human capital into accounting?

4. RESEARCH METHODS

The study case objective is to identify economists' perceptions to accounting and presentation human capital. In order to determine the economists perception, it is necessary to identify human capital current position in accounting, at national and international level. In Romanian economic practice, it is known that the emphasis on human resources is beginning to increase. To identify whether a new change is considered necessary, the quantitative method was used. A questionnaire was applied to respondents, using Google Forms Platform and it was completed in 2020. The questionnaire was sent by email and social media applications. The questions are following a 5-point Likert scale (from the least to the most). The answers received were analysed and statistically interpreted. The regression model was performed using EXCEL-Data Analysis. Therewith, were analysed to determine their perception of current situations in the economic environment.

5. FINDINGS

It was used a sample of 100 people from the economic environment. They work in the financial accounting department, in the private and public environment. The respondents from the public environment are working at the National Administration of Public Finances, Romanian South-Muntenia region. Was obtained answers from people who are certified by the Romanian Body of Expert Accountants & Certified Accountants, and a large number of respondents have Management of Business Administration and Association of Chartered Certified Accountants qualifications. Therefore, was obtained the perceptions of the key people from the economic environment.

This sample of respondents was chosen to determine a vision on the need to recognize human capital in accounting and financial statements. The questionnaire was applied to people who are working in the economic field. As expected, the need to increase attention to human capital was validated.

The independent variable was considered to be questions (which it refers to the legislative alignment, the need for human capital accounting and its presentation in the financial statements), and the dependent variable was considered to be the answers received.

From a total of 18 questions, 3 were needed to know objectively the respondents. These questions referred to the respondents age, the experience they have in the economic environment and the position they occupy in the institution where they work.

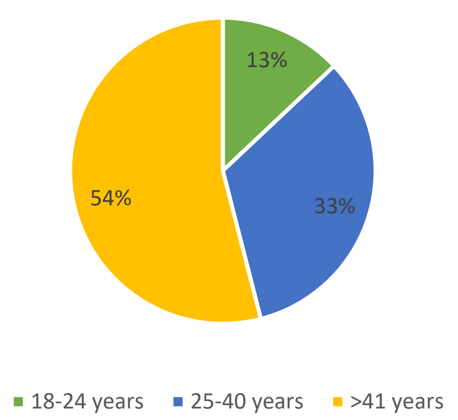
It was covered a sample of respondents with ages between 18–41. Thereby, 13% of them are between 18–24 years old and it is expected that this percentage will be represented by the respondents who occupy the entry-level, operational functions.

A percentage of 33% of respondents are between 25–40 years old. Their perception is an important one due to their experience and participation in national and international continuous training courses.

The percentage of 54% of the respondents is represented, for the most part, by those who work in the public environment, at the National Administration of Public Finances.

Therewith, this percentage includes the respondents who occupy management positions in the public and private environment.

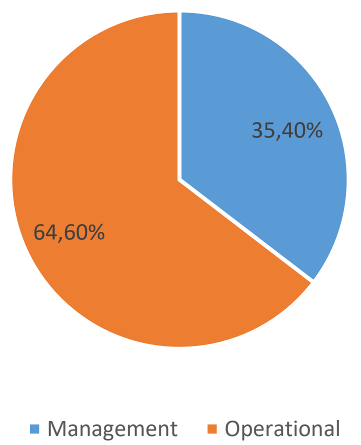
Figure 3. The age of respondents



Source: Own processing based on the answers received

Another necessary question necessary was regarding to the positions the respondents occupied within the institutions in which they work. Thereby, 35.4% of them occupy management positions, and 64.6% occupy operational positions.

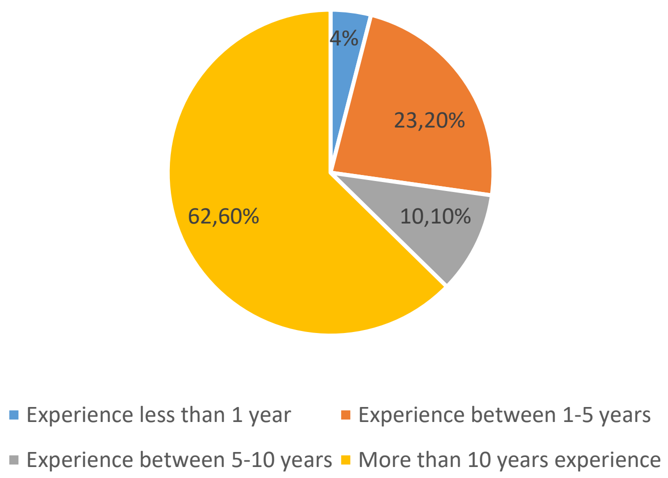
Figure 4. The position occupied by the respondents



Source: Own processing based on the answers received

It was necessary, for the analysis, to be known the respondents experience. They work in financial-accounting field, and have accounting experience. Therefore, 4% of the respondents are entry-level, 23.2% have experience between 1–5 years, 10.1% have an experience between 5–10 years, and the highest percentage, of 62.6% have an experience of more than 10 years.

Figure 5. Respondents work experience



Source: Own processing based on the answers received

Formulating the questions, was followed to identify the need for legislative alignment (for the information comparability at the international level; clear knowledge of the criteria for presenting human capital), the importance of presenting human capital in financial statements (increasing motivation employees, the need recognition to present information about human capital in financial statements), the automation level of financial statements in Romania, human capital recognition in accounting, recognition of the human capital importance for the company.

Was identified the independent variable – "The need for reporting and presentation human capital", and the dependent variables was considered the answers received from 100 respondents, with a high level of professional training. The questions was rated from 1 to 5.

Is considered that option "1" is chosen by respondents who do not agree with the proposed questions, and option "5" – those who identified the need for change. The "3" – "neutral" option was proposed for those who are entry-level and have not yet faced the problems reported in the analysis proposed.

Table 1. The questions applied and the answers received

CURRENT POSITION OF HUMAN CAPITAL IN ACCOUNTING - THE NEED FOR A CHANGE					
QUESTIONS APPLIED	ANSWERS RECEIVED				
	The least	Little bit	Neutral	More	The most
Importance of legislative alignment	0	2	3	28	67
Receiving additional requirements for financial statements preparation	13	22	19	26	20
Presenting human capital in the financial statements	0	3	7	44	46
Does the computer system generate financial statements?	4	6	14	31	45
Need of automate financial statements	2	5	5	29	59
Isn't that right "human resource is just a liability"?	1	8	6	25	60
Is human capital a company investment?	0	0	1	42	57
Isn't that right "human resource is just a company cost"?	3	3	11	28	55
Isn't that right "employee remuneration = benefits to the company"?	18	12	17	34	19
Isn't that right " employee value = salary value"?	7	15	11	34	33
Is the human resource generating economic benefits?	0	3	4	47	46
Importance of including human capital in the field of accounting	3	8	17	41	31
Human capital presentation in the financial statements = increasing its motivation?	6	10	13	40	31
Is remuneration according to the added value brought = decrease of resignations?	5	4	9	34	48
Criteria for presenting human capital in the financial statements	3	5	20	46	26

Source: Own processing based on the questionnaire and answers received

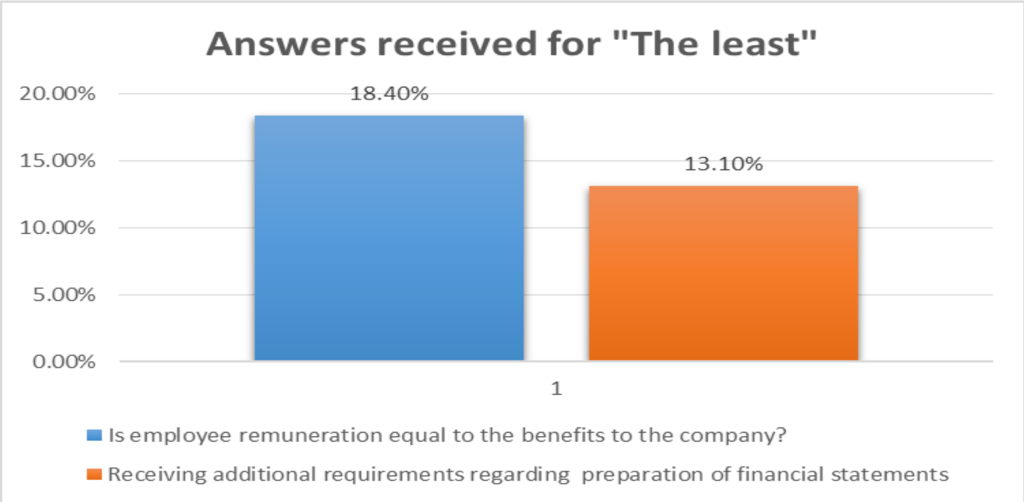
It was considered that it necessary to present the questions that had the highest number of 1 – “the least” and 5 – “the most”.

The people who choose option 1 consider that the need for a change in financial reporting and human capital accounting is not exist. It can be seen that 18.40% of respondents consider that the employee's salary is equal to the benefit they brings to the company. Nevertheless, the benefit should not be compared to the salary, because, if these two were equal, there would be no profitability from employees for company.

Another result obtained is that, 13.10% of the respondents did not receive additional requirements (from the parent company, auditors) regarding to financial statements.

The graph below attests the results obtained:

Figure 6. Answers received for “The least”



Source: Own processing based on the answers received

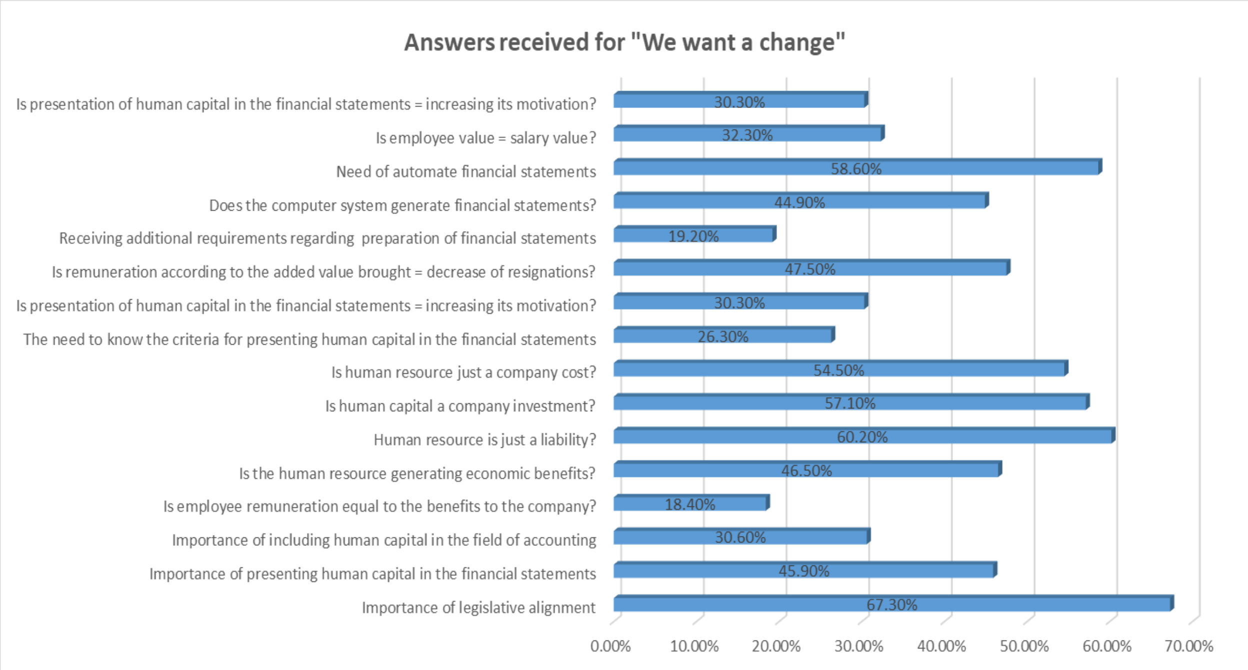
The results obtained shows that respondents consider necessary a change regarding to the image of human capital in accounting and financial reporting. Therefore, 67.30% of them consider necessary the legislative alignment. The financial statements should be prepared according to a single standard. In Romania, the financial statements are prepared according to membership in a companies group. If an enterprise is part of a companies group, will prepare the financial statements according to the standards applicable in the country of the parent company (usually International Financial Reporting Standards). Otherwise, they are prepared according to the national standards. 45,90% consider that the presence of complex information regarding human capital is necessary.

From an accounting point of view, 46.5% believe that human capital generates economic benefits and this should be included in the assets sphere; 60.20% believe that the employee is not just a salary debt for the company and 54.5% believe that it should not be accounted for only as a cost of the period; 57.1% certifies that the employee represents an investment.

From a psychological point of view, 47.50% of respondents consider that if the employee were remunerated according to the added value they would bring, the number of resignations would decrease considerably, and 30.30% of them consider that if the information on human capital would be more complex presented in the financial statements, would increase employee motivation.

From an informatic point of view, 58.60% consider necessary to automate the financial statements. But this automation is beneficial on the working time, but it does not attest a good knowledge and a mastery of the presented information. In this sense, 44.90% benefit from financial statement automation.

Figure 7. Answers received for "The most"



Source: Own processing based on the answers received

Therewith, it was necessary to analyse the answers received from a statistical point of view, in order to identify if the exposed problem can be validated in the current economic context. Considering that the statistic test is valid, the need for accounting and presentation of human capital is attested. Its exposure to the most important economic information (financial statements), its presentation and evaluation in accounting, is increasingly a must-have of current accounting and the knowledge economy.

Table 2. Summary output

Regression Statistics	
Multiple R	0.999999884
R Square	0.999999768
Adjusted R Square	0.899999675
Standard Error	0.000590101
Observations	15

Source: Own processing based on the questionnaire results, using data analysis

Multiple R is the way in which a given variable can be predicted using a set of variables in the linear function form. It is known as the "Correlation Coefficient". Its value is 0.99, being a value close to the extreme value "1". This result indicates that there is a direct and strong connection between the issues proposed and the need identified to change the accounting regarding to human capital.

"R Square", also known as "determination coefficient", is the element that identifies the statistical value of the data approximation according to the regression line. The result obtained in value of 0.99 exposes the idea according to which the variables "Y" - the answers received are influenced by the variable "X" - the questions applied. At the same time, this coefficient shows the model validity.

"Adjusted R Square" has a value of 89%. This shows that the variation of "Y" is determined by about 89% of "X". Thereby, the difference of 11%, up to 100%, is represented by the residual components. The elements that determine this difference are adjusted correlation coefficient, deviation factor, adjusted R square.

The standard deviation of the statistical sample is represented by the element "Standard Error". This element shows the accuracy with which a sample represents a population.

Was identified 18 questions, of which 15 were analysed and quantified. 3 questions were necessary for an objective knowledge of respondents.

The model validity is also given by the value of "Significance F" which is 9.01. This shows that the relation between the identified problems (reported in questions) and the perception of the respondents (reported in answers) is very strong. Therefore, the need to reporting human capital was validated by the answers received from respondents.

Table 3. Anova

ANOVA		SS	MS	F	Significance F
Regression	5	14.99999652	2.999999	8615261.8	9.01275E-30
Residual	10	3.48219E-06	3.48E-07		
Total	15				

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
The least	1.00396975	0.005103	196.74	2.83E-19	0.992599	1.015340	0.99259928	1.015340218
Little bit	0.99858581	0.004298	232.34	5.364E-20	0.989009	1.008162	0.98900937	1.008162241
Neutral	0.99719171	0.003904	255.46	2.078E-20	0.988494	1.005889	0.98849409	1.005889338
More	1.00005900	0.001586	630.64	2.473E-24	0.996526	1.003592	0.99652563	1.003592374
The most	1.00047738	0.000901	1110.9	8.598E-27	0.998471	1.002484	0.99847070	1.002484061

Source: Own processing based on the questionnaire results, using data analysis

The variation amount consists the value "5" – "regression value" and value "10" – "residual value". In total, they sum up the value of freedom degrees, 15.

The value of 14.99 represents the sum of the regression squares. Therefore, the square sum of the residual value = 3.48 was obtained.

For the total freedom degree n-1, the average of the corrected dispersion determines for the freedom regression "k" the value of 2.99. For the residual value that has the degree of freedom n-k-1, the value obtained is 3.48.

The set of null hypotheses is represented by the F Test. By calculating the critical region, the value of 9.01 > 0.05 is determined, which confirms that the model is statistically valid. Thereby, "x" is a significant factor. At the same time, it can show us the fact that the probability that the chosen equation does not explain the variation of "Y". Also, any match should be purely coincidental. However, given that the significance of F is greater than 5%, there is a significant correlation. Thereby, the multifactorial model is valid, being a statistically significant one.

The coefficients sum up y's values of 1, 0.9985, 0.9971, 1, 1 for x.

Lower 95% (left limit), alpha parameter is significant, because the probability that all of the hypotheses can handle (which it claims to be significant) is 99%> 95%.

Upper 95% summing values over 99%. Therefore, the beta parameter is significant.

Table 4. Residual output

Observation	Predicted Y	Residuals	Standard Residuals
1	1.00022222	-0.00022222	-0.461213784
2	1.00000179	-1.79025E-06	-0.003715624
3	0.999691415	0.000308585	0.640462929
4	1.00017979	-0.00017979	-0.373150877
5	1.00009466	-9.46597E-05	-0.196464651
6	1.000054266	-5.42657E-05	-0.112627655
7	0.999269163	0.000730837	1.516839435
8	0.999041816	0.000958184	1.988695425
9	1.000632091	-0.000632091	-1.311893884
10	0.999899918	0.000100082	0.207718742
11	1.000137328	-0.000137328	-0.285021956
12	0.999774069	0.000225931	0.46891594
13	0.999907306	9.26935E-05	0.192383923
14	1.00116108	-0.00116108	-2.409802751
15	0.999929606	7.03942E-05	0.14610202

Source: Own processing based on the questionnaire results, using data analysis

To analyse the new potential change that could occur on accounting, it is considered that this can be quantified by the perception of Romanian economists. The main change factors are in the sphere of the human capital current position, and these were quantified by the answers received from the respondents. The connection between answers and questions represents the variables of statistical analysis. The population was considered to be 100 Romanian economists with economic experience, and their perception was measured on a sample of 15 questions. All the research questions determinate all of the questions applied to respondents. Thereby, it is considered that all of the issues identified are validated by the respondents perception and by measuring them through statistical analysis.

Due to the fact that the statistical test is a valid one, we can conclude that indeed, human capital is a missing element in accounting and it has to be reported in financial statements. This is essential for measuring and evaluating it within a company. At the same time, the statistical results show that the human capital is considered by the respondents a company investment. This is due to the fact that the company invests in its employees through courses and trainings to bring added value. Therefore, it is considered that accounting should not be limited to considering human capital just a cost. Human capital has to be part of balance sheet assets. At the same time, the results of the analysis show that human capital is a generator of profit and needs to be included in accounting. Statistical results show that accounting information about human capital are not sufficient. The perception of the respondents could not be measured in another way, and the statistical results validate the research questions.

6. CONCLUSIONS

The study case started from the Romanian economists needs and from the increase of human capital importance recognition. It is confirmed that human capital brings the company to a high, unique and innovative level. Through the validity of statistical test, it is attested that it is necessary to recognize the human capital in accounting in a special asset account and its presentation in the financial statements. These financial statements should attest at the national and international level, in a linear manner, all information that provides for human capital. It was found that these financial statements do not provide enough information to fully know the human capital working for the company. At the same time, through the analysis performed, it was demonstrated that, also from a social point of view, the presentation of human capital would determine a much higher motivation. Its evaluation and remuneration according to the benefits brought to the company would considerably decrease the resignations. This aspect is a sensitive one, because, in Romania, the resignations are at a very high level due to the low human capital remuneration.

The issue of resignations due to salaries is not determined only by national legislation, but also by companies. Employees resign due to the mismatch between the work done and the benefits received. I consider that companies' attention to employee salaries should increase, because, in the private sector, they are the largest employees mobility. The profitability of each employee could be determined by the indirect method, which includes all the expenses attributable to each employee. Remuneration could be made according to the profitability that each employee brings to the company or by including in the salary a percentage of the annual turnover. The salary expense presentation, at each hierarchical level, it could create an image that could affect or not the company. By presenting this information, it could be determined whether the remuneration is achieved fairly or not, on hierarchical levels, or whether the jump from one level to another is too high in salary terms. Financial information users should pay attention to the costs wage value in order to identify the amount at which labor is remunerated. In Romania, the salary legislation has started to change by including salary levels depending on education levels.

The human capital inclusion in financial statements could reduce resignations by recognizing and presenting success over a financial year. At the same time, the financial statements could be improved by including a “social” section to certify the involvement of the company, through its employees, in activities in the community in which it works. Employees should be presented in financial statements, in order to be seen as they deserve.

The fact that the analysis results are based on the perception of economists with a very high level of training, confirms the need to allocate a much greater importance on this issue. At the same time, the frequent legislative changes that occur in Romania, in a very short time, the desire for financial comparability, determined the need for legislative alignment.

Through this study case, the main shortcomings of human capital accounting were identified and validated. Therewith, the need for integrated reporting of human capital was emphasized.

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International Trade

EFFECTS OF FDI ON DOMESTIC EMPLOYMENT: CZECH CASE

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Abstract
The effects of FDI have been a topic of interest for academics and policy makers for decades. Its impact and welfare implications have become much more discussed, with the liberalization of economic relationships across many regions of the world. The FDI effects are contingent upon many factors and, when determining the distribution of these effects, structural and legal settings need to be considered. This paper focuses on the FDI effects on domestic employment, looking into a specific growing sector of the Czech economy, during the pre-crisis period of 2002–2007, which saw strong FDI inflows. The aim of this research is to determine the FDI effects based on the relationship between operations of foreign companies approximated by their market shares and employment in other companies. Using an extensive dataset of Czech companies, this research employs a model developed by Karlsson et al. (2009). Results suggest a negative effect during the time of investment, but a prevailing positive effect once the companies start production and turn it into sales. We find this empirical contribution novel in the field of international economics, especially in times that probably precede a crisis which will reopen the discussion about costs and benefits of FDI in a small open economy.

Keywords: *FDI, employment, crowding out, spillover effects, selection*

1. INTRODUCTION

Academics and policy makers have been interested in the effects of FDI for decades. With the recent liberalization and intensification of economic relationships in many areas of the world, the question of effects and related welfare implications became much more discussed. Even with the focus on one variable only, for example employment, overall effects seem to be dependent on many factors. Behind the aggregate effects, structural and legal settings matter when determining the distribution of effects among groups and across time. Thus, an important part of evaluating the effects is empirical evidence, brought case by case.

This paper contributes to this discourse by employing a non-orthodox method, developed by Karlsson et al. (2009), and looking into a specific growing segment of Czech Republic, a small open economy.[1] We work with an extensive dataset of Czech companies and

[1] The working version of this paper constituted a chapter of the dissertation thesis created and defended by one of the authors. The text was intended for later processing and publication, as explicitly stated in the thesis: Bolcha,

aim to identify the effects, based on the relationship between shares of foreign companies (investment, sales) and employment in other (possibly affected) companies. We focus on the pre-crisis period of 2002–2007, characterized by an increasing trend of FDI flows, boosted by a continuous growth of world economy, and liberalization of investment policies (UNCTAD, 2009). The strong FDI inflows, reaching an unprecedented level within the EU (Eurostat, 2009), represent the main interest behind choosing to research this period. This investigation brings relevant results in times that precede a crisis caused by COVID-19, which will bring back the discussion on policy measures to be introduced or re-introduced. Thus, costs and benefits of FDI flows still remain one of the essential topics for international economics and related policies.

Our results suggest negative effect of FDI activities during the time of investment on employment of other firms from the same sector, but prevailing positive effects once the companies start production and turn it into sales. These results hold for both definition of variables of interest, as well as when selection is counted for, and are, thus, not contingent upon specific settings. We therefore conclude that the crowding out effect dominates in the short run, but once domestic firms have time to adjust and become suppliers for the foreign companies, the positive spill-over effects prevail. These conclusions suffer from limitations of our focus and method used, as explained in detail below.

The paper is organized as follows: the next section refers to previous research in the field of FDI effects on employment, and discusses the contribution that this research brings; the following sections describe the data, empirical strategy, and the research findings; and the final sections are devoted to a discussion of the results and drawing conclusions.

2. THEORETICAL BACKGROUND

Research on effects of FDI, on both host and home economies, has a long history, as can be documented by dozens of theoretical and empirical works. One of the reasons behind this interest can be the strong welfare implications that depend on policy response, especially in small open economies.

Theoretically, we can expect several effects of firms' operations on their neighborhood and the final effect cannot be decided a priori. As Navaretti et al. (2004) sum up, FDI increase the capital stock, capital intensity, and labor productivity. Combining the specific assets of investing firms with the home country assets boosts production with a competitive advantage. The positive effect is most apparent in the case of export-oriented production, when domestic firms, as contractors of investing firms, join the stream of production. In the case of home country market-oriented investments, the effect is less clear, but can still have positive components, due to increased productivity and income.

Lipsey (2004) studies both the home and host-country effects of FDI, providing an extensive survey of existing literature, and shedding light on a multitude of aspects. From the home-country perspective, the author discusses the FDI effects on exports and factor demand, and summarizes the effects on wages, productivity, and growth in the host country. Similarly, Vahter and Masso (2006) look into both home and host-country effects, although mainly focusing on the productivity spillovers in the home country. Using a panel dataset of Estonian firms, the authors did not find robust indications of spill-over effects that are distinct to the model specifications, the results rather varying for the different specifications of the variable. The authors conclude that FDI effects are diverse for the different countries, sectors, and FDI types, and thus, the spill-over effects need to be carefully interpreted, especially when

P. (2011), Selected Effects of Investment Incentives on the State Budget and Employment in the Czech Republic, Dissertation Thesis, University of Economics, Prague, defended in Spring Semester 2011.

generalizing them for other countries. Blomström and Kokko (1997) reach a similar conclusion when examining empirical evidence of host-country FDI effects – impact varies depending on the country, industry, as well as policy environment.

Various researchers have also, specifically, studied the FDI effects on domestic employment. Tanaka (2012) examined those effects in Japanese firms, in the manufacturing, wholesale, and service industries. The author found that, in all three sectors, firms engaging in FDI saw a higher growth of employment, as opposed to the ones remaining domestic. Driffield and Taylor (2000) report a small or insignificant effect in the UK, where FDI seemingly increased labor productivity and demand for high-skilled labor, with an insignificant effect on low skilled workers. Nunnenkamp et al. (2007) measure employment effect in Mexico, during the period of 1994–2006, using panel data of 200 sub-industries. The impact of FDI flows showed to be significant and positive, but with a very small magnitude of the effect. The findings also reveal the structure of new jobs created – unsurprisingly, these are mostly low skilled jobs and capital-intensive jobs. Hisarcıklılar et al. (2010) found a small significant negative impact of FDI on total employment. They use dynamic aggregate model of employment explained by lagged employment, FDI inflow and wage index. After disaggregating, they find that the effect is positive in some sectors and some types of entry (esp. in the case of greenfield investments). Positive impact in these sectors is swept away by the overall shift from low-qualification jobs to more advanced production processes in recent years. Recent work of Bayar et al. (2020) brings mixed results of effects on unemployment in a panel of 11 post-transition EU member countries. The overall effects of greenfield investments in the whole panel are not significant, however in country-specific effect – few of the countries (minority) show positive effects (decreased unemployment).

Fors and Kokko (2001) looked into the effects of FDI on home-country structural changes in production, using data from a sample of Swedish MNCs. The authors discovered significant changes, finding annual turnover rates of 10%, and seeing an opposite change in domestic and foreign employment. Although unable to define a pattern in production relocation, the researchers did observe a relative decrease in labor intensity of home-country production.

Chen and Ku (2005) analyzed data from the Taiwanese manufacturing industry to determine the relationship between FDI and domestic jobs. They found that overseas production partially reduced required input for domestic production, thus decreasing labor demand. However, overseas production also minimized the costs, resulting in output expansion. This output-expansion effect often offset the input-substitution effect, creating a net positive effect for domestic employment, although the effect varied for different labor groups and investment locations. Similarly, Lipsey and Sjöholm (2004) bring mixed results when assessing the effect on wages and conclude that total effect on employment is contingent upon particular circumstances – type of FDI, educational structure of population, required educational structure for relevant industry, etc.

Karlsson et al. (2009) bring an individual-level data study from the Chinese manufacturing industry. The authors estimate a result of indirect effects on domestic firms. The authors measure the employment growth in domestic firms as a function of observable firm characteristics, industry, region and time dummies, and FDI intensity. The latter (approximated by the share of sales of foreign owned firms on total sales of particular sector) is intended to be the key variable of interest. The results show that, in the case of China, FDI had a positive impact on private domestic firms, and a negative (or insignificant) impact on non-private domestic firms. In our paper, we adopt the same empirical strategy, using a similar dataset for Czech companies, in the years 2004–2009.

Another aspect worth mentioning, that has been widely discussed in literature, in various contexts, is the crowding out effect. One of the channels for this effect, in the case of both horizontal and vertical FDI, is the labor (or factor) market, where foreign firms cause an increase in wage (or factor price) level, which in turn causes (marginal) domestic firms to reduce employment and/or leave the market (Srholec, 2004; Karlsson et al., 2009). In the long run, it is probable, that some domestic firms will switch to new activities in which they find a comparative advantage.

As for our chosen market, researchers have studied various FDI-related aspects in the Czech context. Král (2004) aimed to determine the main drivers of FDI inflow into the Czech Republic, and evaluate the government's role in attracting those inflows. Using a cointegration analysis and an error-correction model, the author found that macroeconomic stability, competitive investment incentives, and an effective financing infrastructure are among the key determinants boosting FDI inflow. Stančík (2009) used company-level panel data, from the 1995–2005 period, to analyze the FDI effect on sales growth rates, focusing specifically on takeover and greenfield investments. The author found that, in the presence of foreign firms, domestic ones mostly experienced a decrease in the sales growth rate. Horizontal spillovers' effect was revealed to be mixed – negative from greenfield investments, and positive from takeovers, and both horizontal and vertical spillovers were sensitive to time. Most recently, Hlaváček and Janáček (2019) looked into the effect of FDI and public incentives on the socio-economic development of Czech regions. Using OLS regression models, the authors found significant positive effects, of both FDI and government financial incentives, on the regional development, albeit only in specific regions. In terms of FDI, findings suggest that it considerably impacts the number of small firms, building permits, and estate value.

One of the first works that analyzed the Czech labor market specifically is Srholec (2004). Using aggregate data, the author shows that focusing on absolute levels of employment, in foreign owned enterprises, leads to biased results. In the 1997–2003 period, the absolute number of employees grew by 200%, but this growth was accompanied by a fall in employment of domestic firms. The net change by this crude measure he used was a fall of approx. 5% of the labor force. The paper also documents the crowding out effect by comparison of wages. The wage level in foreign owned enterprises was on average 20 percent higher than in domestic firms, which applies to all subsectors.

Our paper brings further evidence to the Czech experience, in order to shed more light on the resulting effects on the economy in a particular time. We use a similar model to Karlsson et al. (2009), which, to our knowledge, was not previously used for investigating the Czech environment to inspect the employment effects. We believe that, next to the empirical findings, this will be another contribution to the ongoing discussion that might unveil the ways how the government and related agencies compute effects of policies.

3. RESEARCH METHODOLOGY

To estimate the effects of FDI inflows on employment of domestic companies, we employ multiple regression model inspired by Karlsson et al. (2009). Our identification strategy relies on lagged variable (we assume FDI inflows to happen prior to the effects on employment), as well as on using different explanatory variables (FDI, sales of foreign owned companies). Both versions of the model are estimated with standard OLS estimator, as well as with Heckman's correction of selection, due to exit of the companies from the market.

3.1 Data Description and Adjustment

Our dataset is an individual firm-level annual panel data, collected by the Czech Statistics Office (CSO). CSO provides a survey about basic firm level indicators each year. Each firm with more than 20 employees is obliged to complete the survey. Smaller firms are being randomly sampled and, thus, they constitute a representative sample for the whole economy.

We have selected the period of major FDI inflows, around the entry of Czech Republic into the European Union, and three years after, so the performance is not influenced by the major crisis starting in 2008. In total, we have an unbalanced panel for the 2002–2007 period with approx. 39,000 observations.

The observable characteristics covered in the dataset contain approx. 50 detailed variables, including the number of employees, structure of costs, structure of revenues, taxes. The characteristics used in the model are described in detail below.

We have selected only firms from the manufacturing industry. We are aware that a large portion of the effects might be in the service industry, which is strongly connected to manufacturing. However, this would bring too much complexity into our measurement, so we leave this for another study. This keeps our measurement in a relatively homogenous segment, and is also in line with other disaggregated studies (Nunnenkamp et al. 2007, Karlsson et al. 2009). We have used the definition of the Czech National Bank and EUROSTAT (ČNB, 2008, p. 3), and classified foreign firms according to the ratio of ordinary shares (or voting power) possessed by non-residents on total capital stock of a firm, designating all firms having a share higher than 10% as foreign. Unfortunately, data containing this measure was only available for the period of 2005–2008 and we had to extend it to the preceding years. Thus, some firms that became foreign in 2003–2004 can be wrongly treated as foreign for one or two years.

3.2 Empirical Strategy and Descriptive Statistics

A. Main Model

Inspired by Karlsson et al. (2009), we estimate the effect using individual firm level data combined with aggregated levels. We modify the model in several aspects; especially by including the entry of firms, allowing for different time spreads of reactions and changing specifications of basic variables of interest, which will be discussed below. The basic equation of the Model can be expressed as:

$$empl\_gwt_{it} = \beta_0 + \beta_k X_{it} + \sum_{j=1}^{M} \gamma_j . ind_j + \sum_{t=1}^{T} \gamma_t . year_t + \delta . foreign\_sh_{jt-1} + \varepsilon_{it} \tag{1}$$

empl_gwt$_{it}$ – *employment growth* – dependent variable, the difference of natural logarithm of number of employees in domestic firm *i* between year *t* and year *t-1*. Differentiation and logarithm allow us to measure directly the relative change in *i*-th firm.

Xit – is a vector of explanatory variables chosen on the basis of previous research (reported above):

log_employment$_{it-1}$ denotes the lag of natural logarithm of average number of employees of a given company in a given year – a control for the size of the firm. The expected sign is negative – the bigger the firm is, the smaller the relative changes in employment will be observed during a given period of time (Karlsson et al., 2009; Hisarcıklılar et al. 2010).

labor productivity$_{it-1}$ – denotes the natural logarithm of labor productivity, defined as the ratio of sales minus material costs divided by the number of employees of the firm. This variable should control for performance of the firm. The expected sign is positive – we expect the most productive firms to grow (in terms of employment) more than the rest, holding other things constant (Karlsson et al., 2009).

average wage$_i$ – denotes the natural logarithm of average wage, defined as the ratio of total wage costs and the number of employees of the firm. If the labor productivity by our definition filters out the “productive part” of wage variability, the expected sign is negative, high wages can signal wage rigidity. In these less-flexible firms, we expect lower values of the dependent variable. This variable was used also by Karlsson et al. (2009) and Nunnenkamp et al. (2007).

capital intens$_{it-1}$ denotes the lag of natural logarithm of the ratio of assets and number of employees. This is used as a control also by Karlsson et al. (2009).

We further incorporate:

ind$_j$ a *year*$_t$ – sets of dummy variables for each of two-digit sector j according to NACE industry classification (where M is the total number of branches of manufacturing industry 15–37, minus one) and similarly for years t (where T is total number of years, minus one).

foreign_sh$_{jt-1}$ – *foreign share* – is common for both variants of foreign firms' activity measure; we use it alternatively (they are mutually exclusive):

sales share foreign$_{jt-1}$ denotes first lagged share of foreign firms' sales on total sales of corresponding two-digit NACE branch (sum of sales of foreign firms in industry *j* divided by sum of sales of all firms in industry j). This is a key variable of our interest and will estimate the effect of foreign firms' operating activities on domestic firms' employment in the longer run after the firms/projects start operation.

investment share foreign$_{jt-1}$ denotes first lagged share of foreign firms' investment on total investment of corresponding two-digit sector in year *t*. This is an alternative variable of interest and will reveal immediate responses to investment activity.

The most important concern is about the possible endogeneity of explanatory variables of interest. Following Karlsson et al. (2009), we choose first lag in order to capture causality. Unfortunately, this does not control for the fact that foreign investors choose the industries which will expand in the future, provided some private information and/or the fact that they have more flexible resources (e.g. zero fixed costs if they start enterprise). To control for this, we incorporate industry dummies to filter out industry specific effects, but they are fixed across time. This will control for this endogeneity partly, but if a boom occurs during the period, the fit of this measure is weaker. Karlsson et al. (2009) suggests instruments at the regional level, but their results do not change significantly. In principle, the choice of industries can bias our result upwards.

The expected interpretation of foreign share is straightforward – the positive sign will show an overall positive indirect effect and vice versa. The version with investment will measure more immediate effects during the time of investment, and the version with sales will capture the effect after adaptation.

B. Correction for the Survival Problem

With respect to the fact that our panel is unbalanced, we face the selection bias: regression (1) would not account for exits of firms and, therefore, cause positive bias in estimation. We follow solution developed by Karlsson et al. (2009, p. 14 and 17) and run a two-stage model, where in the first stage we estimate the probability of survival and in the second stage we estimate the equation specified above (1).

As generally known, this approach has origins in the famous work of James Heckman (1979). To sum up, the basic mechanism using Wooldridge (2003, p.560 and following), the problem of estimation lies in incidental truncation. This means that some values of the variable of interest are not in the data – in our case it is employment (and also other observables) and this omission is not random. Therefore, the usual set up of regression (1) would yield biased results, because zero employment of firms after their exit is not observed. Heckman´s proposal is to approach this as a measurement error problem and decompose error term (e) into random part (u) and part generated by selection process (v). Generally, we try to identify the equation of interest:

$$y = X\beta + e \qquad (2)$$

In order to filter the part (v) of error term $e=u+v$, we use the first stage probit regression modelling probability of appearance in the data (if unit appears in next periods, then dummy survive=1) given observables Z:

$$P(survive = 1|Z = z) = \varphi(Z\gamma) \quad (3)$$

Then, as Wooldridge (2003, p. 561) refers, we plug in estimated values of probability of appearance into second stage equation (2) and obtain unbiased results:

$$E(y|z, survive = 1) = \beta_k X + \rho\lambda(\gamma Z) \quad (4)$$

where estimated values (λ) come from the first stage equation (3) and the coefficient ρ measures the "strength" of selection bias. In our case, the first stage is carried out by estimation of probit model, where the dependent variable is survive. It is a dummy variable equal to one in the given year t, if the particular firm i appears in the data at least in one of the following years *(t+1, 2...)* and zero otherwise:

$$P(survive_{t+1} = 1|Z = z) = \phi(Z\gamma) \quad (5)$$

As proposed by Wooldridge (2003, p. 562) and Baum (2006, p. 269), we have included all explanatory variables X from equation (1) into selection equation (5) and added variables that are likely to determine the survival of the firm. So, Z is a full set of X, except for the main variable of interest (shares) as following procedure in Karlsson et al. (2009). The new variables added to those specified above were intended to explain the survival probability:

small_profit$_{it}$ – denotes a dummy variable equal to one, if the ratio of profit (during the year t) on gross assets (at the beginning of the year t) is smaller than 4% (including negative values) which on average corresponds to 10% of observations. The inclusion of this variable is straightforward: we expect small profit to be predictor of exit and, thus, a negative sign before the coefficient.

log_investment$_{it}$ – denotes natural logarithm of investment of domestic firm *i* in year *t*. The survival of the firm depends on a range of factors that are not observed to the researcher. We expect that level of investment in the current year is a good proxy for the outcome of these factors interacting with managers´ expectations. Thus, the expected sign is positive.

sales_growth$_{it}$ – first difference of natural logarithm of sales in domestic firm i between year *t* and year *t-1*. This variable captures the dynamics of the firm's activity during the last two years and, among other things, it condenses information about the life cycle stage. In case of high positive values, firm is in growth (probably at the beginning) part of the cycle, reversely in case of small or negative values. We expect positive sign here.

Thus, the full equation of the first stage of the model is:

$$P(survive_{t+1} = 1|Z = z) = equation\ (1) + \varphi_1.small\_p_{it} + \varphi_2.log\_ia_{it} + \varphi_3.sales\_gwt_{it} + \varepsilon_{it} \quad (6)$$

Next to exits, the second issue is connected to firm entries. Similarly, as in case of exits, excluding this factor would yield biased results: using lags of several variables means missing values in first observations. In case of existing firms, this does not bring any problem into estimates – we explore the dynamics of employment in further years. But, this set up would not allow to account for extra employment generated by new firms. The first best solution would be to incorporate explicitly the process of firm emergence into the model. However, we do not have information about firms, that do not exist and therefore we turn to the second-best solution: we identify the entering firms and replace the values of their variables in the first year.

Particularly, we copy time invariant (or "nearly time invariant") characteristics (NACE branch, average wage, capital intensity) from the following year. Further, we have normalized the variables measuring operation (their logarithms) to zero. This will allow us to measure 100% growth in employment during the first year of existence.

C. Descriptive Statistics

In line with the empirical literature, we have transformed selected variables with natural logarithms (employment, sales). Table 1 offers an overview of the basic observables of domestic firms (before transformation to logarithms), in an unbalanced panel of the 2002–2007 period used in the model. We can see that the observables show sufficient variability, including constructed shares of sales (investment) of foreign firms.

Table 1. Descriptive statistics of variables in Step 1

Variable	Mean	Stand. dev.	Variable	Mean	Stand. dev.
employment growth	0.245	0.17	*average wage (thous. CZK)*	184	395
employment	93.1	362	*capital intensity*	2,975	79,595
labor productivity (thous. CZK)	1,615.5	40,815	*investment (thous. CZK)*	10,427	136,626
investment share foreign	0.504	0.158	*sales share foreign*	0.452	0.148
N of observations (absolute) 37,168					
N of observations (differenced) 26,646					

Source: CSO data, own computations

4. RESEARCH RESULTS

4.1 Effects of Foreign Firms' Activity on Domestic Firms' Employment

Table 2 shows the results from several different specifications. In column (1) and (2), we refer to the OLS results yielded by estimation of equation (1) without further adjustment. We see that most of the coefficients are statistically significant and have expected signs. The coefficient on average wage is positive, but we will see that this will change in the 2-step model.

The first variable of interest (sales share foreign) is statistically significant (p=0,001) and has a positive sign. Its magnitude is approx. twice as large as in Karlsson et al. (2009). Even though there is no reason to expect similar size a priori, this comparison shows that the estimates are not of extreme values. The second measure used for this purpose shows the opposite: the sign is negative and not far from the conventional levels of significance (p=0,067). This might signal that, whereas short run effects are negative (crowding out dominates), the long run effects measured via sales are positive. But, these results, very probably, suffer from bias, because of the selection and, thus, we turn to Heckman model results.

Table 2. Results from OLS and Heckman 2-step regressions

	(1) OLS (sales)	(2) OLS (invest.)	(3) Heck. (sales)	(4) Heck. (invest.)
log_employment$_{it-1}$	-0.122*** 0,000	-0.121*** 0.000	-0.0188** 0.002	-0.0187** 0.002
labor productivity$_{it-1}$	0.0144*** 0.000	0.0145*** 0.000	0.0139*** 0.000	0.0139*** 0.000
average wage$_i$	0.0344*** 0.000	0.0344*** 0.000	-0.0147** 0.007	-0.0147** 0.007
capital intens$_{it-1}$	0.0122*** 0.000	0.0122*** 0.000	-0.00599** 0.003	-0.00600** 0.003
sales share foreign $_{jt-1}$	0.159** 0.001	-	0.126* 0.032	-
investment share foreign$_{jt-1}$	-	-0.0444 0.067	-	-0.0639* 0.038
1st stage of Heckman (Probit survivet+1=1), additional survival variables:				
small_profit$_{it}$	-	-	-0.280*** 0.000	-0.280*** 0.000
log_investment$_{it}$	-	-	0.0319*** 0.000	0.0319*** 0.000
sales_growth$_{it}$	-	-	0.231*** 0.000	0.231*** 0.000
labor productivity$_{it-1}$	-	-	0.0334** 0.006	0.0334** 0.006
average wage$_i$	-	-	0.160 0.014	0.160 0.014
capital intens$_{it-1}$	-	-	0.00585 0.687	0.00585 0.687

P-values reported below coefficients; * p<0.05, ** p<0.01, *** p<0.001; N=26,646

Source: own computations

4.2 Heckman Selection Model Results

Looking at Stage 1 of Heckman's selection model (bottom part of Table 2), we see that all four coefficients of additional survival variables have the expected sign and are significant at conventional levels. Exceptions are the capital intensity and average wage. In order to keep the result table manageable, we do not report all the coefficients from Stage 1 estimation, since they do not have an essential meaning for our main coefficients of interest.

As a predictor of exit, small (or negative) profit decreases the probability of appearing in data next year. On the other hand, firms in progressive period (in terms of sales or investment) are very likely to survive. Employment helps to explain survival – the bigger the firm is, the less likely it exits (not reported). Similarly, productive firms paying above-average wages are more likely to operate next year. We skip the report of time and industry dummies.

The likelihood ratio chi-square for the equation (not reported) is highly significant ($\chi2 = 33{,}841$; p<.000), which suggests that the exogenous variables represent a good set of forces determining the selection process. The pseudo R^2 of the model is 0.12.

If we turn to Stage 2 – we introduce entry and the exit of firms – significance of coefficients does not change much, but the magnitude does. Specifically, the average wage becomes negative, which is more in line with the story of rigidity and competitiveness. The firms that offer, on average, higher wages (controlling for the labor productivity) are probably more likely to leave the market.

Similar change is connected to capital intensity – high numbers are connected to less significant employment growth. This can be attributed to the composition of firms that are most likely to be contractors (and beneficiaries) of the operation of foreign firms. But we cannot attribute any deeper meaning to this a priori.

The statistically significant coefficient on Mills ratio (Lambda=-0.328; p=0.000) shows the presence and strength of selection. The way how it influences explanatory variables can be seen by comparison of Columns (1–3) and (2–4). The sign and the magnitude of employment and labor productivity did not change much.

If we turn to the key variables of interest, we see that coefficients are smaller (or more negative) numbers. The "short run-long run" story holds also for this case; but the magnitude of long-run positive effects is smaller (0.126) and the shock on employment in the short run seems to be more severe (-0.064) and becomes statistically significant. This is in line with intuition (exits decrease total employment effects).

With respect to the fact that the coefficient on investment share (*investment share foreign* $_{jt-1}$) measures the immediate response of domestic firms during the investment period, it mainly measures the crowding out effect – the outflow of employees (and exit of firms) during the settlement in the short run, firms from the manufacturing industry barely take part in investments of foreign firms (potential beneficiaries are firms from the construction industry, which are not included in this dataset!). During the start of production (after the sales start to grow), firms seem to penetrate the networks of investors, so the long run effect is positive. So, the coefficient on sales (*sales share foreign*$_{jt-1}$) probably measures the period when the linkage effects dominate. The magnitude of the coefficient implies that with each percentage increase in share of foreign firms, we can on average observe 0.126% increase in employment of domestic firms.

We should be careful about the size of the coefficient. First, the effect is concentrated in the middle of the distribution of sizes. As the effect is averaged, a small firm with one employee hiring another one shows 100% increase in employment. With respect to huge number of small firms, this can bias any extrapolations to the whole industry upwards. Second, we have wrongly denoted some firms to survive even though they have exited – with respect to our definition, we have denoted as exiting all firms not appearing in the data (at least) once in none of the following years, but only for years 2002–2005. In the last two years, we did not assign any firm as exiting. This biases our result upwards. Similar but reverse is the situation with entering firms.

Our results confirm the rather positive effects to be prevailing, at least in the long run, similarly as in Navaretti et al. (2004), Nunnenkamp et al. (2007), Karlsson et al. (2009), and Hlaváček and Janáček (2019) suggest. The effects might be positive even in the short run, since we omit service sector from our measurement. The crowding out might be even weaker there, since most of the positions might be industry specific (non-transferable or transferable with high costs only). This might be seen as an opposite experience than what is reported in Vahter and Masso (2006) or Blomström and Kokko (1997). The short-run negative effect and long-run positive effect seem to confirm findings of Fors and Kokko (2001) or Chen and Ku (2005) that also observe positive effects after structural change.

To make a more detailed picture of the results, we decomposed the effects with respect to firm size and ran regressions within segments. The vast majority of the effect is distributed in medium firms (51–250 employees). Smaller part goes to small firms (below 50) and, perhaps surprisingly, the biggest firms show negative growth of employment, associated with growth of foreign firms' sales. This is probably a result of the fact that foreign firms compete with the biggest firms, and also some of the biggest firms were generally in a downturn part of their life cycle, due to the post-privatization period (and therefore source of employees for expanding firms). On the other hand, mid-size firms (51–250 employees) might represent a significant part of the contractors of foreign firms – so the linkage effect dominates here.

5. CONCLUSION

Foreign direct investments have been a focus of researchers for the last three or four decades. Even though the effects on domestic economies have been investigated in detail, the effects in specific time and place have often more directions, and the overall effect is an empirical question dependent on local elasticities and institutional settings. Employment levels are not an exception, and our intention was to reveal the overall effect in the Czech manufacturing industry, in the times of an economic boom and high FDI inflows.

In this paper, we employ novel methodology developed by Karlsson et al. (2009) that aims to identify causal effect via time lags. We also count for selection bias, caused by the exit of companies, using two-stage Heckman model, as well as for company entries by data adjustment. Specifically, our results suggest negative effect of FDI activities during the time of investment on employment of other firms from the same sector, but prevailing positive effects once the companies start production and turn it into sales. Thus, the short-run effects might be negative (crowding out effect dominates in the short run), but long-run effects are rather positive (spill-over effects prevail), as suggested by classical and market-oriented schools of economics.

This work does not evaluate directly the policy effects and, thus, the policy recommendations are rather indirect – it is another piece of evidence that market forces bring adjustment, where additional production brings positive effects to the surrounding economy (in the form of new workplaces). However, complex cost-benefit analysis of FDI effects, often dependent on the character of investment (cost saving, market seeking or other) is beyond the scope of this paper and, thus, we are reluctant to make any other inference.

As mentioned above, our research is subject to a number of limitations. First, we cannot control for the selection of industries. Second, we do not consider the service sector that will most probably strengthen the positive effects (since the companies are in competition at the factor market only for positions that are not industry-specific). Thus, even the short run effects might be positive after this adjustment. Third, we do not look at crisis times when the dynamics might be in the opposite direction (foreign companies leaving and thus causing a chain reaction of decreases in employment). Lastly, we do not offer any further specification about the country of origin or character of investment (value added), which would bring a more detailed picture about the distribution of the effects. We leave these gaps for future research, especially a more comprehensive study of service industry that constitutes majority of the Czech economy (and most of the developed economies).

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HOW THE COVID-19 WILL CHANGE THE GLOBAL ECONOMY?

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Abstract
The paper deals with the impact of the crisis caused by COVID 19 pandemic on the future development of the world economy, especially on possible scenarios of globalisation and deglobalisation processes. The aim is to identify the basic possible alternatives for future development under different conditions of the changing economic and political environment in the present world. The authors reflect on the threats but also on the opportunities created by the current crisis and the possible consequences of such a development. The paper uses the methods of abstraction, deduction and induction, using moments of currents of the opinion of a new discourse that has emerged with the social sciences in recent years. The conclusions of the study suggest the possibility of international conflicts that can be expected due to the contradictions that these changes will cause.

Keywords: *COVID 19 pandemic crisis, globalisation, deglobalisation, industry 4.0*

1. INTRODUCTION

Today, at a time of global crisis caused by COVID 19 and the aftermath of a pandemic that is far from over, it is clear that the measures taken by governments to eliminate its negative effects and global spread have and will not have a direct and indirect immediate impact only. Still they will influence also the path of future global economic, political and social developments change. It seems to be fully in line with the logic of history when after major disasters (like major pandemics of various diseases, world wars, or significant economic and social upheavals) there is a call for fundamental social change, which is also changing image of the previous world. In the current situation, it is mainly connected with the process of globalisation, as some of its forms and manifestations are considered to be the main factors in the global impact of the pandemic.

The issue of the need for fundamental changes in the current model of the world economy and its globalisation appeared in the approaches of many economists, political scientists, but also some real-minded politicians already before the pandemic. After its outbreak and follow up crisis manifestations, which provoked protective anti-pandemic and following anti-crisis measures of governments of virtually all countries of the world it became more pronounced. Today, many world experts expect (for example, the February and July 2020 issues of Foreign Affairs, or The Economist and several renowned international think-tanks dedicated to this current issue) that the post-pandemic world will be different from the one we have been used to know just a few months ago.

2. METHODOLOGY

The aim is to identify the basic possible alternatives for future development under different conditions of the changing economic and political environments in the present world. The text of the paper is based on the hypothesis that the crisis development following the COVID 19 pandemic will accelerate the trends of changes in the global economy and especially the processes of globalisation. It verifies this hypothesis based on the use of methods of abstraction, deduction and induction, historical analogy and comparison, presenting various moments of current views within the new discourse that has appeared in the social sciences in recent years. The process of verifying the working hypothesis is based on a search of expert articles devoted to the issue of social changes caused in the past by large epidemics with a global impact. This research is followed by a historical analysis of the development of globalisation processes associated with the identification of the consequences of crises in the global economy and the introduction of the phasing of this process from the beginning of the modern world economy. The identification of the current three phases of the rise of globalisation and one phase of its decline, when comparing their parameters and the context of their course, thus establishes the possibility to try to deduce possible future developments in the form of deduction. Prediction of the complex social process, which is globalisation, does not allow a simple linear approximation of past developments into the future. Therefore, the text uses the method of creating scenarios in two basic alternatives, namely the positive form as another variant of globalisation and the negative form of deglobalisation. The work also chooses a finer division of two basic alternative models, using the method of distinguishing them used in the programming of software applications, in the form of numerical designation in the working and second level. Thus, individual sub-models of two basic alternatives of future development are created, specifically within the framework of globalisation, models 4.1. to 4.4. and in the context of deglobalisation models 2.1. and 2.2., with lower-order variants being more general, while higher ones are often a synthesis or modification of some common features for given processes.

These models are verified by selected economic data included as variables identifying processes affecting and simultaneously representing both alternatives, both globalisation and deglobalisation. Statistical data provided by respected international institutions such as UNCTAD, WTO, UNIDO, World Bank, International Robotics Federation. Selected indicators of globalisation dynamics are the openness of the world economy (documented by the share of world trade in global GDP), pace growth of world trade, and foreign direct investment (which are the best-known carriers of globalisation). Industry 4.0 concept development is simply characterised by the global number of robot installations in individual years, and the overall state of their installations, the dynamics of economic development in general at the rate of GDP growth.

The work does not give a clear answer to which model will prevail shortly, because real development will be conditioned by several influences from the field of economy, technological development and political interventions by the political direction of individual countries, especially those with a decisive influence on the global company. However, the individual scenarios presented define the frameworks of conditions that determine their enforcement in real life and describe their positive and negative aspects.

3. ANALYSIS

Estimating future developments is, of course, a complex process that reflects many variables, including the various ideological and political positions of its authors, no matter how impartially they attempt to be. Many remain in their ideological positions, but they understand the need for change. Some still believe that liberal capitalism will survive thanks to the enormous ability of the invisible hand of the free market, according to A. Smith, to bring everything into the natural order of things (understand as ultraliberal capitalism, in which states only harm and parasitise). Proponents of other ideological schools are willing to admit that this "natural order of the world" will have to undergo a fundamental change, let's call it system reform, and the last group stating that today's capitalism has survived and proved its inability to solve global problems using the profit as a tool for the dynamization of human society.

The global coronavirus pandemic, however less deadly so far than other catastrophic pandemics in the history of human society, will undoubtedly have significant implications for the future. It is possible to estimate that it may have similar consequences as the plague epidemic in the Middle Ages or the epidemics of the 20th century. That means that will be similar to the fundamental social changes that took place in Europe after the plague end (e.g. Ziegler, 1969), or the Spanish flu epidemic after WWI (Belser and Tumpey, 2018) (Bloom and Mahal, 1997) and other global pandemics. For example, these publications and other academic research have revealed that the worldwide influenza of 1918 caused a reduction in human capital, including unborn children, during the pandemic, and therefore had implications for economic activity decades after the pandemic (Almond and Douglas, 2006). It can be assumed that similar or even more fundamental changes can be expected even after all the waves of the COVID 19 pandemic will have fade away.

The Coronavirus crisis shows that the by neoliberals celebrated “invisible hand of the market” is not omnipotent, and its effects, however immediately manifested in a liberal society, did not help solve the problems, but rather deepened them. On the contrary, non-market mechanisms based on the solidarity of people in their communities brought solutions. Very harsh state interventions proved to be an effective solution, provided that the state was willing or forced and able to implement such interventions (often to save the existing system). Among them, we see measures such as, helicopter money, unconditional basic income, subsidies to maintain consumption, etc. (which are essentially the principles of distribution of production results characteristic of fundamentally different economic systems). It is also interesting that many current fighters for free entrepreneurship and against the “bad will” of the state requiring to pay taxes, suddenly call for the government to help them because without his help they will disappear. The principle of free enterprise suddenly seems to be turned upside down.

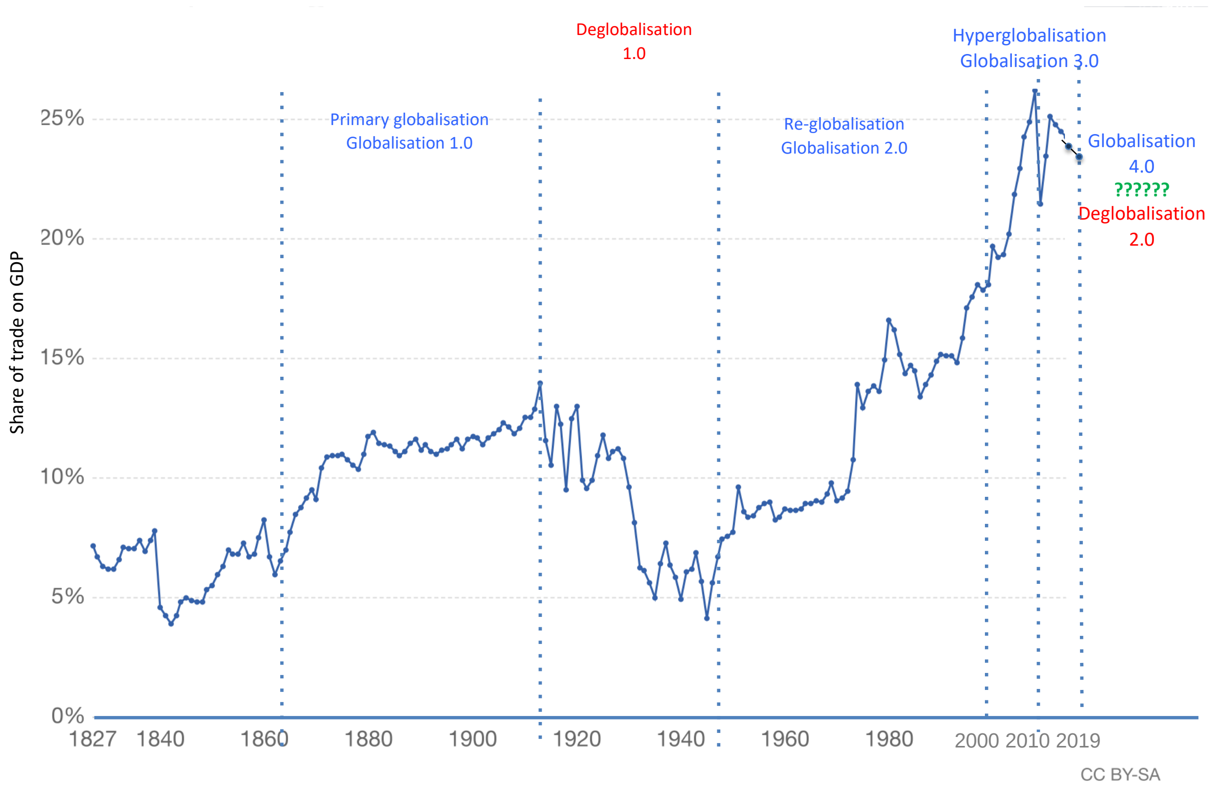
The question more relevant than ever is, what will be the changes in the global economy and perhaps more generally in the global society that is to be expected in the aftermath of the pandemic and the ensuing crisis? The internal structure of social processes leads to the idea that no linear development can be expected but that future development will take place as a clash of opposing tendencies, which will bring partial positive benefits and partly some negative elements for the development of the global economy (at least in its form, in as we know it today). These tendencies will be influenced by two groups of factors: the objective development of social processes given mainly by the direction of global economic, and especially technical development, and subjective influences, especially interventions of political spheres, trying to transform these processes in accordance with the interests of power elites. Short-term (immediate) and long-term impacts can also be identified from a dynamic perspective.

Probably one of the most important objective factors with long-term impact on the changes in the world economy will be the further development and direction of the globalisation process. According to many authors (who published their views even before the COVID 19 crisis), this process is currently at a crossroads, when deciding on its further development (at Kearney, 2014). There are in principle two options, either further steps into the next, higher stage of globalisation 4.0, or its cessation and the onset of deglobalization. This second option could be labelled as deglobalisation 2.0 (providing that as the first phase of deglobalisation will be marked the period between the end of WWI and WWII) (see Figure 1 below). However, both of these alternatives have several variants of possible development, which are largely conditioned by both the objective direction of the processes of technical progress and its economic conditions, and the development of a subjective factor that can influence them by its political intervention. It is clear that the impetus for decision-making in addition to the already traditional critical areas such as environmental protection, socio-economic inequality, further developments may also come from a completely unexpected source, such as health care, or for historical or racial reasons.

The future of globalisation will certainly affect the integration between Industry 4.0, and Globalisation 4.0, but in content different from the previous stages. Even for such a process, several alternatives for further development may exist. The new one can be presented as the continuation of globalisation, but based on the creation of a new multipolar regionally restructured global economy. It will be represented by the dynamic entry of China and other EME countries and the decline of so-called old global superpower centres. Basic poles of this new structure will intensive collaborate on the base of the division of labour and interconnections primarily operating in a regional frame.

Conceivable alternatives are also more radical transformations caused by the new stage of the industrial revolution. They could trigger even more fundamental changes not only in the model of globalisation but also in the whole socio-economic context of development, different from the current one (Shah, 2020).

Figure 1. Past and future stages of the globalisation process



Source: Our World in Data, WB, modified by authors

At present, the best-known representative of such a model is the transition to a shared economy, but they exist other economic models based on alternative ways of economic and social development and paradigms different from the current model. Some of them are, e.g. sustainable development to replacing the pursuit of economic growth, and the distribution of its results (e.g. guaranteed unconditional income, the promotion of fair trade principles in international trade), the reform of the international monetary and global financial system (Tilford and Kundnani, 2020), the decentralisation of energy distribution infrastructure systems, reducing global food production and distribution chains and return to food self-sufficiency at the regional level, significant waste reduction and the global transition to a circular economy (EC, 2019) etc.

These considerations would, of course, require more fundamental changes and modifications to the current socio-economic order because, under current socio-economic conditions, it is difficult to implement. It can be expected that in the longer term a path may be opened due to the need for fundamental reforms caused by the crisis, the source of which may be a completely exogenous factor such as the current COVID 19 pandemic and its economic and political consequences.

Globalisation 4.0 and its options

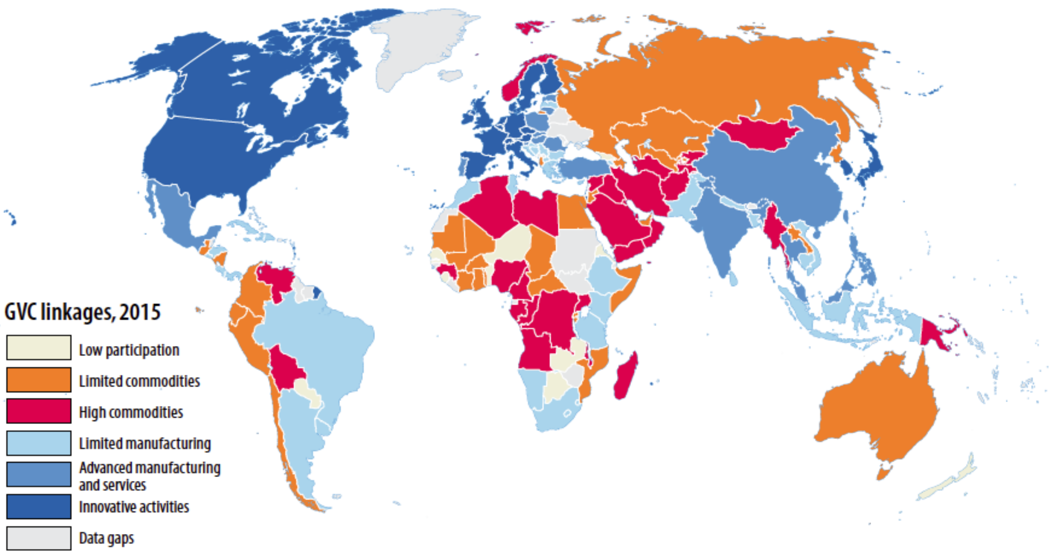
The interconnection of the new stage of globalisation with the new economy, which began to be created by the fourth industrial revolution (Industry 4.0), is one of the specifics of the future development of the global economy. It is possible to state that the further orientation has not yet been definitively decided, its further direction and its specific content will still be decided. It is not only about the connection and coherence with Industry 4.0 and its links in the field of production, exchange, distribution and consumption, ie the entire reproduction process on a global scale. It decides on the much broader context of the future of the global economy, or even the global functioning of the current social form of human civilization. Globalisation 4.0 itself, driven by the technical and technological changes of the Industry 4.0, may be unmanageable if these policies are incorrectly responded to, and may lead to a deep economic and social or even systemic crisis. Or, conversely, in the case of an adequate policy response, bring very beneficial benefits at the global level and address a number of global issues, including global climate change. Therefore, it is possible to identify different variants of the process of globalisation 4.0, (as described in the methodology) as globalisation 4.1, 4.2, 4.3, 4.4, which could represent its individual modifications, variations, or alternatives.

Globalisation 4.1 is just a modification of Globalisation 3.0 while maintaining the tendencies of internationalization and interdependence given mainly by the logic of technological development. it is possible to consider, for example, ideas about its further functioning in the current model of global economic structure, while accepting the necessary policy reforms (in environmental protection, demography, industrial and intellectual property rights, trade, regulation of the financial and banking system, modifications to monetary and fiscal policies, new employment policies, migration, etc.). In essence, this would mean modifying the current system of the institutional structure of the global economy and the rules based global governance system as little as possible compared to the current situation, but reflecting the new conditions set by Industry 4.0. Much has been discussed, for example, at the World Economic Forum in Davos last and this year (*WEF 2020*). This scenario would represent the return to the original model in addition to its driving forces thanks to which it developed in the previous stage. The halt to globalisation that followed after 2020 will be only a temporary obstacle to the long-term hyperglobalisation process that began after 1989. A return to strong growth in global demand would allow new producers and consumers in new markets to enter global value chains (GVC) and thus participation in the global reproductive process. Strong global economic growth will in turn also alleviate geopolitical tensions, as countries' political representations will understand the benefits of growing cross-border economic ties over an autarchy model based on nationalism and protectionism.

As the rise in the price of labor in China and the reorientation of its pro-export economic strategy to the huge potential of the internal market will limit its position as an "industrial producer worldwide", multinational corporations (including newly Chinese and Indian) will cross another geographical frontier of globalisation on Asia, Africa and Latin America. Here large economies in the region (such as Thailand, Malaysia, Vietnam, the Philippines, Nigeria, Kenya, Ethiopia, Angola, South Africa, Namibia – invest in transport, energy and communication infrastructure, enabling them to fully integrate into global supply chains (GVC in the next only) (see Figure 2).

The development of industry based on new infrastructure will enable Asia and Africa to continue its intercontinental and intarcontinental interconnections and provide the opportunity to exploit their huge but latent economic potential. The continent's new markets will be able to give globalisation another impetus to continue the model of globalisation 3.0, that is, to preserve the past trajectory, which represents an essentially extensive form of further growth. With some markets in South East Asia and sub-Saharan Africa showing strong economic growth and more jobs for their large and young populations in recent times, the emerging African middle classes are providing further impetus to global consumer demand growth and globalisation.

Figure 2. Participation of economies on GVC network



Source: WDR, World Bank 2020

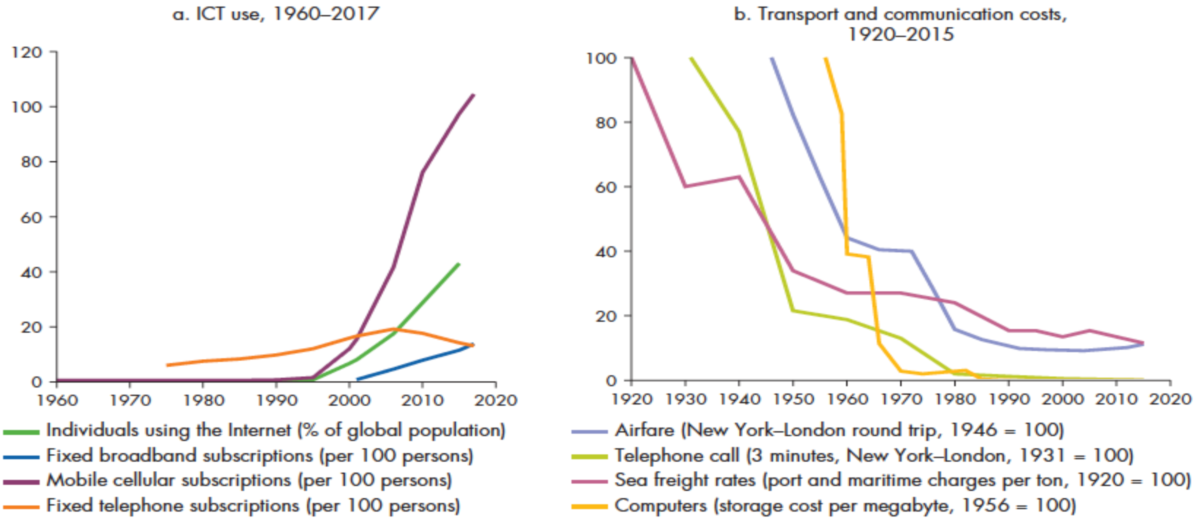
Renewed global growth and reduced geopolitical tensions in this scenario will increase the pressure for a new multilateral (or even global) trade agreement negotiated within the World Trade Organization (WTO) integrating many provisions of regional trade agreements that have been introduced but ultimately not implemented in recent years like The Pacific Partnership (TPP) and the Transatlantic Trade and Investment Partnership (T-TIP), RCEP). This would create a new, more modern trade policy framework for the WTO, able to address hitherto critical issues such as the protection of international intellectual property rights and the liberalisation of trade in services, and further reducing barriers to traditional trade in goods. However optimistic this variant may seem, it is necessary probably to be sceptical to it at present, as one of the building blocks, for example, the further fragmentation of global industrial production and the development of GVCs proved to be one of the most vulnerable elements of this form of relationship during the COVID 19 pandemic.

Globalisation 4.2 is fully integrated and transformed in accordance with the Industry 4.0 concept. While the Globalisation scenario 4.1 is essentially only an extensive continuation of the trends that prevailed in the previous period, its variation 4.2 is based on the incorporation of modern elements of the transformation of the global industrial base into the globalisation process. Technologies that support the Industry 4.0 will have a major impact on the manufacturing sector as they create new ways to serve current needs while significantly disrupting the existing industrial GVCs. The fusion of current and expected future rapidly evolving technologies, which will be a hallmark of the Industry 4.0. promises a fundamental change and redesign of the global economy, which will also have an impact on global trade, international capital movements and thus a more fundamental future modification of the globalisation process.

The connection between Industry 4.0. and Globalisation 4.0. therefore, does not have to take place only in an extensive way, in the form described above under the variation called Globalisation 4.1. The positive intensification alternative (which we will call Globalisation 4.2) has a chance to fundamentally change the world economy in a much more innovative and fundamental way. The fundamental innovations that Industry 4.0 brings based on advanced digitization – the Internet of Things (IoT), artificial intelligence (AI), 3D printing, and blockchain technology can have not only major implications for the content and forms of the global reproduction process, but also for the speed of the global integration process represented by a new phase of globalization, which it can substantially increase.

Digitalization, already at the current stage of development, has begun to influence the ways of diffusion of technical progress on a global scale, defining new ways of transferring knowledge, skills and information on a global scale. Digitalization has greatly accelerated the previous phases of globalisation (globalisation 2.0 and 3.0), where the key role was played mainly by the Internet and the fact that it is a real global network (see Figure 3).

Figure 3. Comparison of development of ICT users and transport and communication costs



Source: WDR 2020

At present (early 2020), more than half of the world's population already has an Internet connection, thanks to mobile and wireless networks and new technologies, including high-level meteorological and satellite devices, as well as access to social networking applications Facebook, Google and SpaceX, etc.

The high degree of Internet connectivity allows the integration of the process of production and distribution of their results in the 4D space-time of the world (i.e. in real integrated time and space). Digitization supports the acceleration of the worldwide distribution of factors of production like technologies, information and ideas, which are an essential condition for further technical and economic progress.

At the same time, however, it will work to destroy some industries in terms of disruptive innovations defined by Schumpeter. On the one hand, digitalization dramatically enables the expansion of trade in certain products, such as entertainment, but at the same time leads to a reduction in industry and trade due to the introduction of robotic factories without labour or additive production technologies (3D printing). Differentiation within and between some industries will lead to the emergence and interconnection of production in other industries. This expanding range of technologies will undoubtedly continue to transform the global economy in the coming years. New technologies bring new competition to global markets that, through access to global digital platforms for research, development, marketing, sales and distribution, can accelerate the disruption of existing businesses or even entire industries by improving the quality, speed or price of a delivered product; services.

Globalisation 4.2. however, will also lead to major shifts on the demand side, like increasing transparency, engagement and new patterns of consumer behaviour. It will be increasingly based on access to mobile networks and data and will force corporations to adapt the whole marketing concept, i.e. the ways they design, market and supply products and services. A critical future trend will be the development of technologically supported platforms (that combine demand and supply), disrupting existing industrial structures, which are beginning to assert themselves in the form of a shared economy. Building on the capabilities provided by mobile telecommunications, combined with AI, self-learning technologies and robotics, these technology platforms make it easier to use assets, connect people, assets and data – creating entirely new ways of needing goods and services in the reproduction process. In addition, they reduce barriers to entry for new players in individual sectors (an example is already the emergence of fintech - a sector integrating the financial and technological industries) and thus help create wealth, changing the personal and professional environment of workers. This also changes the international dimension, which in this model of the scenario will be reflected in a different model of globalization, representing its intensive version.

Merging a higher degree of globalisation with Industry 4.0 can help overcome the expected crisis, support future economic growth and global economic activity in general. But the problem will be that unless the system of international economic relations is reformed, the benefits of this model will continue to be distributed within the global economy unevenly, so globalisation will 4.2. continue to widen the level of inequality between groups of countries that will be forced (and also limited and thus limited) to define and implement various strategies in response to emerging economic structures at the national and international levels of implementation of this model. However, this may lead to political pressures at the international level, which may provoke other new kinds of contradictions and deepen the polarization of the world at the geopolitical level, increase their existing numbers and thus encourage the emergence of new points of conflict at the geopolitical and geoeconomic level.

Countries that will be leaders of Industry 4.0 in the context of maintaining globalisation (mostly in developed countries) could increase their lead over developing countries and radically increase their participation in the economic benefits of these processes. Many developed countries will even be under pressure from the accelerated application of Industry 4.0. combined with a higher stage of globalisation in order to achieve higher productivity growth, as many of them have a long-term trend of slowing down GDP growth (due to a number of factors including demographic developments – e.g. population ageing, the pressure to replace expensive labour with new technologies such as are robotics, AI, etc.). This generates a greater economic incentive to replace human labour with machinery (but associated with elements of AI) than in low-wage developing countries. The subsequent expansion of automation will accelerate the loss of jobs for low-skilled workers, workers in manufacturing industries, but also the growth of requirements for the growth of new skills of employees in relation to the need to increase added value in production and manufactured products in general. The result will be the acceleration of the structural transformation of economies in favour of the dominance of the tertiary and quaternary sectors of the economy towards the support of the so-called educational economy. However, this structuring of the transformation of the economy requires some time before the full integration of new complex interconnected technological systems and the ability to use them fully and effectively. It will require the concentration and reallocation of significant investment resources both in the production sphere itself, new infrastructure (e.g. 5G networks) and additional investments (including investment in human capital), enabling the widest possible effects, including access to permanently retraining workers and fundamentally new business. technologies and practices.

New model of Globalisation 4.2. can also start using the shared economy model by large corporations as part of structural changes and deepen the fragmentation of the production process into other phases (e.g. design, development, further deepening of supply individualisation, etc.) outside traditional industrial production on a basis already conceptually different from current primitive models (Uber, AirBnB) focused on the intensive use of the already mentioned platforms.

Regionalisation and multi-polarization as a variation of **Globalisation 4.3**. Another alternative to hyper globalisation may be the continuation of a modified form of globalisation that will represent a compromise between altercation and globalization. Using the selected software labelling, it is possible to call it Globalisation 4.3. , which is already emerging on the basis of a gradual transformation into a new multipolar, primarily regionally focused structure of the global economy (with the dynamic advent of China or other countries), where its poles will develop towards intensive interconnection primarily on a regional basis, both within the old regions such as the EU) see (EC 2019), Japan (Japan Times 2020), North America) thus accompanied by expansion within their competing regions with new centres of economic development and their satellites in Asia, Latin America or Africa. The processes of financialization will certainly respond to individual options of further development of (de) globalisation in their own way, they may even overtake them in adapting to modified conditions of financialization (for example, efforts to remonetize gold in regional monetary systems, development of an alternative global payment system alternating with SWIFT, efforts to expand the Eurozone more fundamentally and to supplement the concept of monetary union with complete elements of banking and fiscal union within the EU, etc.)

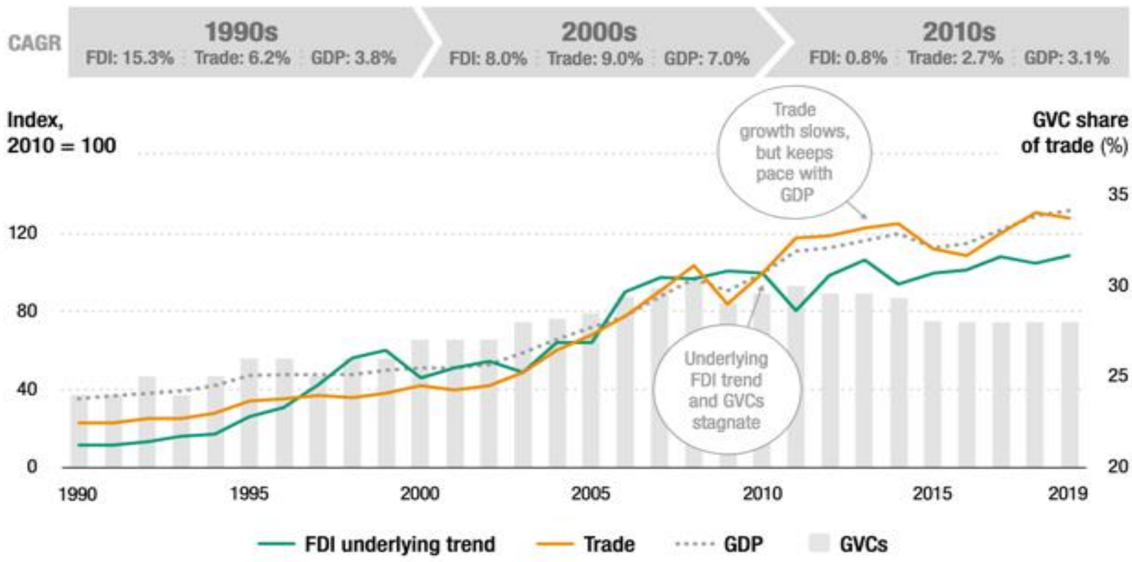
The Globalisation 3.0 was characterized by long-distance trade, due to declining transport and communication costs, which helped expand GVCs in developing countries with expanding market economies. During this period, the share of trade in goods between countries in the same region decreased for a long time (in contrast to trade between more distant buyers and sellers). This trend has begun to change rapidly in recent years, and the intra-regional share of global trade in goods has increased slightly over the last decade, but this partly reflects the increase in consumption in emerging markets. This is most pronounced in Asia and within the EU.

Regionalization is most evident in GVCs based on global innovations, due to their need to closely integrate many suppliers operating in the chain participating in the final product. The possibility that this trend will prevail in other value chains will increase as a result of the advent of robotics automation within the Industry 4.0 concept. It will lead to a decrease in the importance of the labour cost factor when deciding on the allocation of production capacity and flexibility in the response of producers to the requirements of local markets. However, the consequences of a pandemic that has exposed the vulnerability of these chains will limit the scope for developing such an alternative.

An example of regionalization in response to the processes of slowing down globalisation is, for example, the signing of the CPTPP in 2018 (The Comprehensive and Progressive Agreement for Trans-Pacific Partnership) “US-Mexico-Canada-Agreement” from 2018, intensification of cooperation between the Russian Federation and the People's Republic of China, or the establishment of the BRICS and its institutions, negotiations on the RCEP, etc.

In connection with the slowing down of globalization, there is sometimes also talk of Slowbalization, which could be named as Globalisation 4.4. Its content is the slower continuation of some directions of globalisation processes (especially in the field of digitalisation of the economy and other technological changes, including e-commerce), which is reflected in general slowing down the process. The longer-term slowdown in globalisation is evidenced (see Figure 4), for example, by the Globalisation Index published annually by the KOF Swiss Economic Institute. (Gygli et al. 2019) or by UNCTAD Annual reports (UNCTAD, 2020) . Although this process has already started taking place before the COVID 19 crisis, it can be expected that this process will continue after the crisis, although the normalization of the situation after the pandemic will certainly alleviate the short-term declines. Comments on this appear as early as 2018, but especially now in connection with the identification of the effects of the COVID 19 crisis, for example (The Economist 24.1.2019, or The Economist 14.5.2020).

Figure 4. Trends in deceleration of globalisation parameters in the last decade

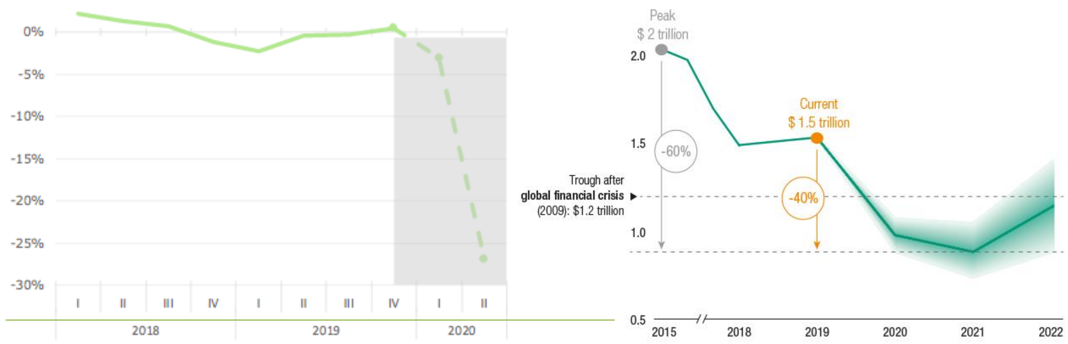


Source: UNCTAD 2020

The COVID 19 crisis has radically changed the slowdown into a substantial decrease. In 2020 there is a major decline in the development of globalisation main drivers, such as the growth rate of FDI or world trade (see Figure 5).

Figure 5. Sharp decline of main drivers of globalisation due to the COVID 19

a. Export b. FDI



Source: UNCTAD 2020

Possible variations of Deglobalisation 2.0.

As a result of the crisis, globalisation may deescalate into opposite processes. They are sometimes referred to as prestigious research institutes such as The Peterson Institute for International Economics (PIIE), the European think-tank Breugel, Project Syndicate, AT Kearney, etc. as **deglobalization**, representing the opposite alternative to globalisation 4.0. This stage of deglobalisation can also be identified as the second in the history of the modern global economy (see Figure 1). so we could talk about Deglobalisation 2.0 while maintaining modern numerical software labeling. Even this process cannot be considered linear, the reality of the current development shows some of its possible variants, which are to some extent promoted in global development and whose increase can be expected after the expected crisis. (Irwin, 2020).

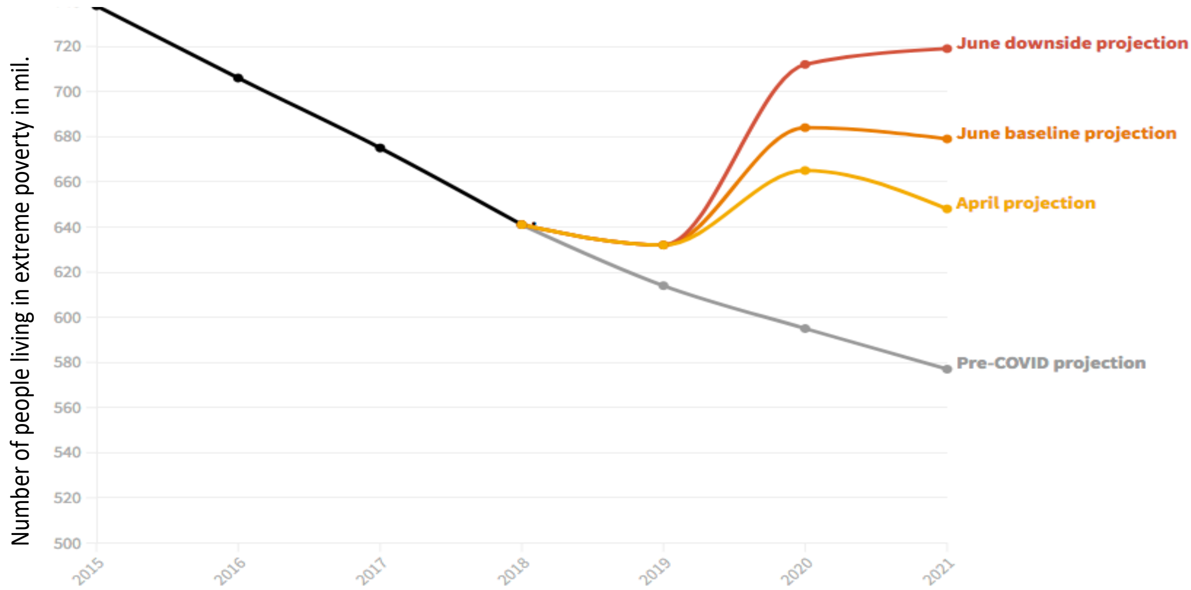
Deglobalisation 2.1. The first variation of deglobalisation is represented by growing protectionism leading to a certain degree of autarkization of economies, which, while maintaining the designation of variants of globalisation itself, is called Deglobalisation 2.1 (AT Kearney's 2016 study calls it islandization – creating isolated islands of national economies). among citizens and some political movements in a number of countries (US administration policy under D. Trump, Brexit). The world created by these policies will be very fragmented and will sharply increase inequality between countries with huge resources and countries with less resources. These economies with huge resources - especially energy and agricultural production - will be much better off in terms of growth potential than countries that do not have large-scale natural resources. Canada, Kazakhstan, Russia and the United States, Saudi Arabia, Iran, will be relative winners because they are the countries with the highest volumes of energy resources (especially oil) and arable land per capita. Nevertheless, even these economies are likely to see a decline in GDP as a result of Deglobalisation 2.0 and now have significantly lower long-term growth prospects.

Another variant may be a tougher model of pressure within geopolitical interests, which is represented by current efforts to slow down or stop China's rise as the future leading geopolitical power and prospectively the strongest player in the global economy. This approach using geoeconomic tools, i.e. a number of trade and currency wars, various types of embargoes focused on individual countries or companies, by preventing "hostile" or security interests from companies from accessing markets, pressure for reshoring, application of measures that disrupt the functioning of GVC, etc.

The growing autarkic character of economies is the result of the ever increasing positive response of the electorate in democracies to emerging nationalist policies as a result of growing income inequality caused by hyper globalisation in advanced economies during and after the global crisis. As the effects of globalisation 3.0 on the economies of developed countries ultimately brought stagnation or a decline in the living standards of the middle class associated with traditional industries. It was a result of their relocation to radically lower-wage countries; this exerted significant political pressure to reduce globalisation and interdependence, global connectivity. As a result of these public pressures, the protectionist (or sometimes called mercantilist) policies of the governments of some developed countries lead to instability in emerging markets. Although renowned economists argue that global interdependence has, brought, greater prosperity and could address inequality with sound public policies, the wider population has rejected these "elitist" arguments and pushed their governments to become more isolated. The victory of D. Trump and in the last elections in the USA and B. Johnson in Great Britain their policies is a good illustration of this tendency.

As some political leaders try to deliver on their promises to stop globalization, the global economy has already begun to experience the onset of autarky, which has been accelerated by the pandemic crisis. Global trade and capital flows will decline in conditions of autarkic policy as the industry begins to focus on production mainly for domestic consumption, both based on government protectionist policies, reshoring, trade and currency wars, and on the rise of consumer preferences level for locally produced products. In addition to the winners and losers of the authorized world economy, even more, dramatic differences will emerge at the level of national economies. With reduced international economic ties, national economies will increasingly consume only what they produce for domestic consumption. Some domestic companies will benefit from this shift in the economic structure. Still, others, especially multinationals, will suffer from the loss of revenue they have earned in international markets in the past. Household consumption expenditure will also fall sharply, especially in developed markets, as local and domestic products will be more expensive than cheap goods originally imported from emerging markets. The social result of this will be that economic inequality will worsen under the conditions of this model, with a small number of wealthy citizens able to afford higher-cost goods. At the same time, the vast majority of the less well-off will cope with these consequences. COVID 19 situation will worsen depending on the length of the pandemic. (Lackner et al. 2020).

*Figure 6. The impact of COVID 19 on Global Extreme Poverty**



Note: * Extreme poverty in understanding of the World Bank is an income less $ 1,90 per day and person

Source: Lakner et al., 2020, WB 2020, modified by authors

In the current global economy influenced by COVID 19 pandemic, several processes are already underway, which indicate a growing trend of deglobalization, not only at the political level but also at the economic level. The long-term tendency (or even it can already be described as the regularity of global structural development) is the decline in the share of industrial production and the increase in the services sector in total global economic activity. As a result, the global economy is increasingly becoming a service economy largely focused on domestic markets. This decline, of course, limits the global territorial dislocation and fragmentation of industrial production and the model of the international division of labour, and the resulting global trade and capital flows resulting from information and data flows. To this macroeconomic trend must be added at the microeconomic level the rising production costs in China and other developing countries, which objectively reduces the advantage of traditional offshoring of industrial production from the West to these countries.

The real possibility of returning to an autakized economy is, in addition to the influence of political factors, on the objective level strongly, even critically dependent on productivity growth, as it is the criterion of successful economic transformations, hence Deglobalisation 2.0. and their alternative. The benefits of the traditional form of achieving high productivity through mass industrial mass production of identical products with low unit costs (including low wages) and its territorial fragmentation within the GVC are slowly disappearing.

Therefore, the success of the model of further development of this alternative, which could be called Deglobalisation 2.1, must be based on a modern type of productivity growth based on local benefits, i.e. individualization, small-scale production and its adaptation to the needs of local markets. Current or emerging new technologies, such as massive robotics implementation, additive manufacturing, modularity, 3D printing, vertical urban farms, auto-assembly, or auto-correction, will need to be highly productive based on added value for the local client and high flexibility. in this localized sense. The advantage of this form should be the much smaller environmental burden than expanding global logistics in the Globalisation 3.0 model. The impending ecological crisis is also one of the factors that will affect deglobalisation processes.

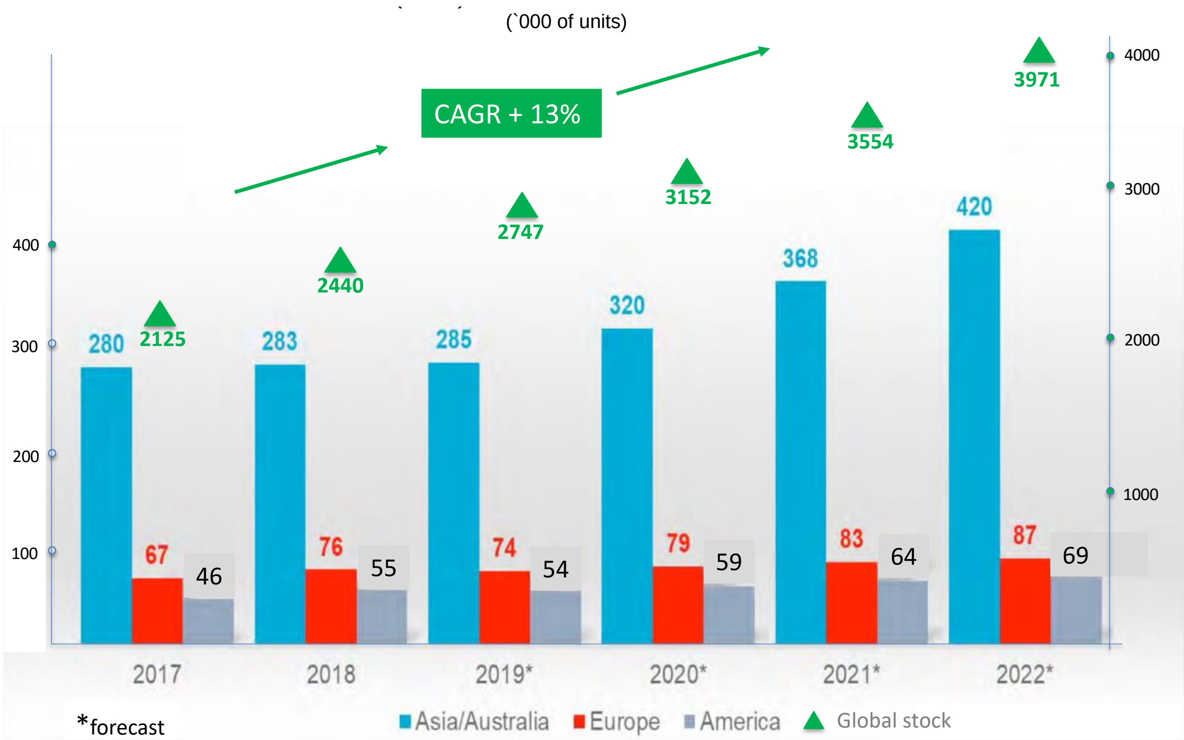
Deglobalisation 2.2. Imaginable alternatives to the classical globalisation of recent decades are more radical changes brought about by a new stage of the industrial revolution (Industry 4.0), which could trigger more fundamental changes in the socio-economic development model (especially called Deglobalisation 2.2), such as the transition to a shared economy and inclusive development, on alternative ways of economic and social development and distribution of its results such as sustainable development, guaranteed unconditional income, promoting the principles of fair trade in the practice of international trade, etc. In recent analyzes and projections of future development of the global economy is also called “commonization”, or also a “zero marginal cost company” (Rifkin 2014). In addition to internal changes in the functioning of the economy and social order, Deglobalisation 2.2 also focuses on reforming the international monetary and global financial system, decentralizing energy production and distribution infrastructure systems, reducing global distribution chains and returning to food self-sufficiency at a regional level, etc. To promote this alternative there will probably be no revolutionary social change, but its onset can rather be expected as a relatively slow and longer-term development focused on a gradual evolutionary transformation process leading to a change in the existing system.

However, history shows that it can also be a way out of deep structural crises, or even widespread systemic collapse, which can occur in today's global economy. In essence, such a change would mean a radical interference with the principles of the existing economic and social system at all stages of the reproductive process, ie production, exchange, distribution, and consumption. At the same time, such a move would require much more effective cooperation in creating global governance, or at least a regulatory mechanism, capable of coordinating, regulating and directing these processes in order to eliminate potential contradictions and conflicts. It is already possible to observe the onset of certain elements of such a transformation, which is based on the already mentioned technological changes of previous variants of the globalisation process but will lead to different social and economic impacts.

The continuing expansion of all forms of digitalization, advances in expanding connections and access to the Internet, the growth of 3D printing, the expansion of open source platforms, various applications of blockchain technology and the rapid growth of some elements of the shared economy are increasingly democratizing the means of production and can subsequently bring about deeper social changes. The result is an (even generationally emerging) alternative global community whose members reject the mass consumerism brought about by capital capitalism at the turn of the century and which promotes a different pattern of consumption based not on the ownership of things but on their sharing.

The implementation of new technologies, which was originally caused to some extent by the need to overcome the Great Depression (i.e. the crisis after 2008) and subsequent stagnation in the form of disruptive innovations, contributed to the emergence of some anti-globalisation tendencies in the economy (e.g. increasing reshoring and slowing down the development GVCs) and led to greater localization of production processes. The crisis following the coronavirus pandemic will certainly exacerbate this trend. The COVID 19 crisis has increased interest in new technologies and their applications including robotics, AI, drones etc. The reason is that new technologies are able to deal with shortages in different sectors requiring extensive staffing like healthcare, manufacturing, and logistic supply chains. These sectors naturally needing "social distancing;" minimize human intervention, so can play important role in material manipulation (incl. disinfection, drugs delivery for example), diagnostics, rehabilitation and treatment, in healthcare at all levels. The virus has created a good opportunity for a number of different public applications of robots. It is estimated (iGATE Research, 2020), that the global industrial robotics market could surpass US $ 24 billion volume in the next five years after 2020 (see Figure 7 below). The global operational stock of industrial robots should by prognosis of International Federation of Robotics (IFR) achieve in the same year number of almost 4 millions installations (IFR, 2020).

*Figure 7. Annual installations of industrial robots (LHS) and their global operational stock (RHS) 2017–2018 and 2019–2020**



Source: World Robotics 2019, IFR2020, UNCTAD 2020, modified by authors

Localization itself has demonstrated the ability to function not only as an adaptation mechanism in times of crisis but also as a new direction for possible future development, which is a process that limits or replaces globalization. Within its framework, all necessary production, pre-production and post-production operations focused on local markets are fully integrated into the area of the same geographical region. The innovation given by the development of new technologies accelerated the localization model to a much larger scale, thus indicating the possibility of more fundamental changes in the entire reproduction process. Progress in improving some of the revolutionary technologies and reducing their costs already allows us to create technologically advanced production units focused on the needs of their own communities, which can be maintained at the required technological level thanks to growing Internet connection, global satellite navigation and communication, allowing them to share ideas. and product and service designs on a global scale without cross-border movement of goods and people. These trends have been particularly significant for a number of emerging markets, which are gradually leading to a weakening of traditional global supply chains and a decline in the market shares of large multinational corporations.

Another factor supporting this alternative of current globalisation trends will be the growth of consumer demand for local production due to the expected growing international public interest in the causes and consequences of climate change. As the global frequency and severity of the effects of extreme weather events increase, consumers in many parts of the world are increasingly aware of the environmental inefficiencies and negative nature of externalities, including their vulnerabilities, associated with long-distance freight worldwide, evolving on a huge and increasingly complex basis. a model of global supply value chains based on Globalisation 3.0. Involvement in the new model of the economy Deglobalisation 2.2 it can not only be a means of supporting the local localized economy but will also benefit the whole planet.

As a result of these technical, economic, social and also political changes, both within national economies and globally, one can expect the transformation of the whole global economy into a “zero-marginal cost society” (as J. Rifkin calls it) based on the development of the IoT, which accelerates the transition to an era of almost freely available goods and services, which will limit the dynamics of global cooperation and weaken the market economy of capitalism. Rifkin thus reveals the paradox of the economic system of capitalism, which led him to rise and worldwide dominance, but now brings him to the brink of extinction. The immanent feature of capitalism has been and still is, the dynamism of its competitive markets, which increases productivity and reduces costs, allowing businesses to reduce the price of their goods and services in order to gain market share and control over consumers. The reduction of marginal costs, which has hitherto been the instrument of the dominance of this production method, may approach values close to zero in the conditions of the new possibility of a technological revolution.

The production of goods and services in this environment will be almost free and therefore not subject to market forces. A society with zero marginal costs will thus be an economy in which goods and services are almost freely available and people are able to spend their time building relationships and working with other people instead of working in traditional jobs. Rather than globalization, the world economy will take on the role of a generator of guidelines and practices in which ideas and innovations are shared across borders in global communities. As a result of this change, the movement of intangible goods and traditional world trade in goods will predominate in the sphere of mutual economic relations between countries and communities, and foreign investment, which was the driving force of the "old" global economy, will be largely relics of the past. Rifkin concluded that while capitalism would survive this revolutionary social transformation and be able to prosper in it, it would only be part of a hybrid system in a role, an aggregator of network services and solutions. According to him, human civilization is entering a new world outside the markets, where it is learning how to live together in an increasingly interdependent global collective community, gradually replacing the traditional model of the global economy with principles such as sustainability, inclusion, financial and social responsibility. However, it is necessary to realize that such a company will require a new form of the social contract, ensuring the division of effects from the economic activity of human society among all stakeholders, ie not only stockholders (capital owners) but also other participants – employees, clients and the wider social environment.

P. Mason takes a similar stance in his prediction of the socio-economic consequences of Industry 4.0 on the development of the global economy, which, however, is much more revolutionary in its view of the future of capitalism and expects a much more radical change (Mason 2015). At its core, there will be information technology, and a new industrial revolution driven by capitalism, but with its tendency to push the value of considerable human production to zero, thus gaining the potential to disrupt the entire economic system based on money markets, wages and private property. Within the current market system, the economic life of a company is beginning to transform into another form. According to Mason, the current situation is so turbulent that society expects great and so profound changes that this time capitalism itself, an extremely complex system in which entire societies operate, will turn into something completely new.

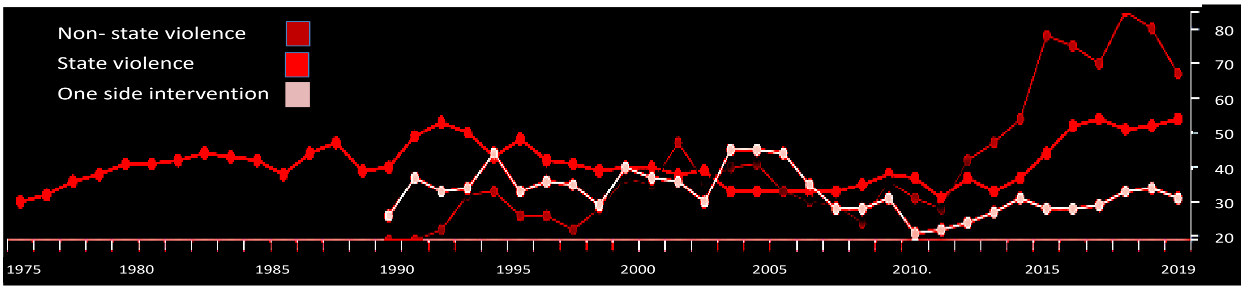
Already in the current market system, the economic life of society is beginning to transform into another form, where many people change their behaviour and live in a way that is contrary to the current system of state-supported capitalism. Information technologies lead to an exponential decrease in the production costs of information, information goods and some physical goods. As a result, it is possible to produce a large number of tools for free, which leads to a tendency to democratize and radically reduce the cost of innovation. But it also suppresses the normal adaptation processes that capitalism has managed so far, which has allowed it to survive. The current state of the information-capitalist economy, combined with enormously high indebtedness at the level of states, corporations and households, and continuing fiscal deficits, are not mutually compatible. The result, according to Mason, is that a very dysfunctional system has emerged in the last 15 years that is unsustainable in relation to traditional assumptions, a system of permanent monopolies with massive annuity and financial exploitation, low wage creation and unskilled labour that serve to keep people in the system of lending and providing data, massive asymmetries of power and information between corporations and consumers. All this can, under certain circumstances, especially in the form of a crisis blend of all negative moments of development, evoke the cumulative effect of the acute need for great social transformation (as has happened several times in history).

4. CONCLUSIONS

The main problem with all these transformations is how to finance them. Traditional sources of finance are partially evaporating, or are already disappearing from the financial markets, the economy is not producing new money. The growth rate of social product creation is expected to fall below – 20% in 2020 (World Bank, 2020) . The current economic model based on the dominance of financial markets, and more generally the entire financial economy over real does not allow to provide sufficient financial resources, because it will not provide the expected return. Although the economic policy may enter the scene here, its existing instruments at its disposal, namely fiscal or monetary policy, are currently on the verge of their effectiveness. There has been a discussion for some time that the monetary policy of central banks loses its effectiveness at a time of zero interest rates. Fiscal policy encounters a huge global indebtedness of state budgets, which the traditional instruments used so far, i.e. fiscal loosening in the form of additional indebtedness, will only deepen in a huge way. (Stieglitz, Rashid, 2020). Basically, both types are some form of “printing” of uncovered money, uncovered by the adequate performance of the real economy. So far, in most cases, this has led to massive inflation and associated social upheavals over time.

So the sum of politics will probably be forced to choose other instruments, not just the traditional ones. Unfortunately, one of them has been the war so far. In the process, the invisible hand of the market solves a lot of economic problems. The rich get richer faster, the poor get even poorer, the middle class is lost, the demand then grows, with them an investment, technological progress accelerates. In today's world, there are a growing number of armed conflict zones (see Figure 8) in which it is possible to provoke a war conflict not only of the local but also of the regional or even global dimension. But that is another question, for completely different social science disciplines.

Figure 8. Number of armed conflicts in the period between 1975 and 2019



Source: UCPD/PRIO Armed Conflicts Dataset version 20.1, modified by authors

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Market Based Reporting and Nonfinancial Reporting

VALUATION ESTIMATES FOR THREE BIGGEST SLOVAK BANKS IN COMPARISON TO THEIR PARENT COMPANIES AND BIGGEST US BANKS

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Abstract
The aim of the article is to evaluate selected three biggest Slovak banks in comparison to their mother companies that are big European banks as well as three biggest US banks. The valuation is based on the latest financial indicators including revenues, earnings and price to earnings ratios. Subsequently are their valuations estimated also in five years horizon from 2015 to 2019 and compared to publicly traded banks researched in this article. Many similarities with the parent bank companies as well as biggest US banks are observed. In the conclusion is noted that the valuations estimates did not change much from 2015 to end of year 2019 for three biggest Slovak banks.

Keywords: *valuation estimates, Slovak banks, market cap*

1. INTRODUCTION

This article is aimed at valuation estimates for three biggest Slovak banks in particular Slovenská sporiteľňa (subsidiary of Austrian Erste), Všeobecná úverová banka (subsidiary of Italian Intesa) and Tatra banka (subsidiary of Austrian Raiffeisen) and comparison to biggest US banks in particular JPMorgan Chase, Bank of America and Citigroup as well as with big European banks Erste, Intesa, Raiffeisen. Different business indicators are analyzed including revenues, earnings, price/earning (P/E), market cap and dividend yield. The selected banks are notably different in their market caps as well as performance on the stock exchanges. Slovak banks are not being traded on exchanges and are rather owned privately while their parent companies and US banks are present on stock exchanges in Austria, Italy and United States.

2. LITERATURE REVIEW

Valuation estimate of the company is complex and complicated process that depends on many factors and is widely used for example in mergers and acquisitions. Business valuation is a process and a set of procedures used to estimate the economic value of an owner's interest in a business. Valuation is used by financial market participants to determine the price they are willing to pay or receive to effect a sale of a business. In addition to estimating the selling price of a business, the same valuation tools are often used by business appraisers to resolve disputes related to estate and gift taxation, divorce litigation, allocate business purchase price among business assets, establish a formula for estimating the value of partners' ownership interest for buy-sell agreements, and many other business and legal purposes such as in shareholders deadlock, divorce litigation and estate contest (Kwok, 2008).

Valuation process and chosen methods can significantly alter the valuation of the company creating differences in millions or even billions of dollar. In cases of legal disputes the court can appoint a forensic accountant as the joint expert doing the business valuation. In these cases, attorneys should always be prepared to have their expert's report withstand the scrutiny of cross-examination and criticism (Gottlieb, 2011). Before the value of a business can be measured, the valuation assignment must specify the reason for and circumstances surrounding the business valuation. These are formally known as the business value standard and premise of value (Shannon, Reilly and Schweihs, 2000).

The standard of value is the hypothetical conditions under which the business will be valued. The premise of value relates to the assumptions, such as assuming that the business will continue forever in its current form (going concern), or that the value of the business lies in the proceeds from the sale of all of its assets minus the related debt (sum of the parts or assemblage of business assets).

There are three main standards of values (Abrams, 2001):

- Fair market value – a value of a business enterprise determined between a willing buyer and a willing seller both in full knowledge of all the relevant facts and neither compelled to conclude a transaction.
- Investment value – a value the company has to a particular investor. Note that the effect of synergy is included in valuation under the investment standard of value.
- Intrinsic value – the measure of business value that reflects the investor's in-depth understanding of the company's economic potential.

The financial statement analysis is an important part of business valuation and generally involves common size analysis, ratio analysis (liquidity, turnover, profitability), trend analysis and industry comparative analysis. This permits the valuation analyst to compare the subject company to other businesses in the same or similar industry, and to discover trends affecting the company and/or the industry over time. By comparing a company's financial statements in different time periods, the valuation expert can view growth or decline in revenues or expenses, changes in capital structure, or other financial trends. How the subject company compares to the industry will help with the risk assessment and ultimately help determine the discount rate and the selection of market multiples (Vaquero, 2018).

It is important to mention that among the financial statements, the primary statement to show the liquidity of the company is cash flow. Cash flow shows the company's cash in and out flow.

The market approach to business valuation is rooted in the economic principle of competition: that in a free market the supply and demand forces will drive the price of business assets to a certain equilibrium. Buyers would not pay more for the business, and the sellers will not accept less, than the price of a comparable business enterprise. The buyers and sellers are assumed to be equally well informed and acting in their own interests to conclude a transaction. It is similar in many respects to the "comparable sales" method that is commonly used in real estate appraisal. The market price of the stocks of publicly traded companies engaged in the same or a similar line of business, whose shares are actively traded in a free and open market, can be a valid indicator of value when the transactions in which stocks are traded are sufficiently similar to permit meaningful comparison (Mercer, 2008).

The difficulty lies in identifying public companies that are sufficiently comparable to the subject company for this purpose. Also, as for a private company, the equity is less liquid (in other words its stocks are less easy to buy or sell) than for a public company, its value is considered to be slightly lower than such a market-based valuation would give.

When there is a lack of comparison with direct competition, a meaningful alternative could be a vertical value-chain approach where the subject company is compared with, for example, a known downstream industry to have a good feel of its value by building useful correlations with its downstream companies. Such comparison often reveals useful insights which help business analysts better understand performance relationship between the subject company and its downstream industry. For example, if a growing subject company is in an industry more concentrated than its downstream industry with a high degree of interdependence, one should logically expect the subject company performs better than the downstream industry in terms of growth, margins and risk (Trugman, 2016).

3. AIM AND METHODOLOGY

The aim of the article is to valuate selected three biggest Slovak banks in comparison to their mother companies as well as three biggest US banks. The valuation is based on the latest financial indicators including revenues, earnings and price to earning ratio (P/E).

Since 1900, the average P/E ratio for the S&P 500 index has ranged from 4.78 in Dec 1920 to 44.20 in Dec 1999. However, except for some brief periods, during 1920–1990 the market P/E ratio was mostly between 10 and 20 (Shen, 2000).

The average P/E of the market varies in relation with, among other factors, expected growth of earnings, expected stability of earnings, expected inflation, and yields of competing investments. For example, when U.S. treasury bonds yield high returns, investors pay less for a given earnings per share and P/E's fall (Leibowitz, 1990).

The P/E ratio of a company is a major focus for many managers. They are usually paid in company stock or options on their company's stock (a form of payment that is supposed to align the interests of management with the interests of other stock holders). The stock price can increase in one of two ways: either through improved earnings or through an improved multiple that the market assigns to those earnings. In turn, the primary drivers for multiples such as the P/E ratio is through higher and more sustained earnings growth rates (Fengming, 2001).

All data used in the article are from these sources:

- Bloomberg – for 5 year comparison charts of selected performances as well as financial indicators (revenues, earnings, dividend yields, market caps, P/E ratios).
- Yahoo Finances – for financial indicators (revenues, earnings, dividend yields, market caps, P/E ratios).
- Finstat – for financial indicators of Slovak banks (revenues, earnings).

4. RESULTS

As the first thing were analyzed main business indicators revenues and earnings for the year 2019, last fully reported year to this date.

Table 1. Revenues and earnings for selected banks, year 2019, in billions

Bank (country)	Revenues	Earnings
VUB Bank (Slovakia), €	0.53	0.11
Erste Bank (Slovakia), €	0.64	0.17
Tatra Bank (Slovakia), €	0.46	0.13
Intesa Sanpaolo (Italy), €	15.77	4.18
Erste Bank (Austria), €	7.26	1.47
Raiffeisen Bank (Austria), €	7.19	1.23
JPMorgan Chase (USA), $	110.04	36.43
Bank of America (USA), $	85.58	27.43
Citigroup (USA), $	66.07	19.40

Source: Finstat, Yahoo Finance, Bloomberg

Earnings are after tax figures. Slovak banks have average revenues of 540 million euro and 140 million in profit per year. Their average earnings / revenue indicator is 26%. Their parent companies have average revenues of 10,07 billion euro and average profit of 2,29 billion euro. Their earnings / revenue indicator is 21%. Selected US banks have average revenues 87,23 billion dollar and profits of 27,75 billion dollar. Their earning / revenue indicator is 32%.
As the next step were looked at P/E ratio and dividend yield that can be seen in the table 2 below.

Table 2. Dividend yields and P/E indicator for selected banks

Bank (country)	**Dividend**	**P/E**
VUB Bank (Slovakia)	-	-
Erste Bank (Slovakia)	-	-
Tatra Bank (Slovakia)	-	-
Intesa Sanpaolo (Italy)	N/A	7.030
Erste Bank (Austria)	N/A	7.580
Raiffeisen Bank (Austria)	6.20%	4.860
JPMorgan Chase (USA)	3.94%	10.560
Bank of America (USA)	3.16%	9.410
Citigroup (USA)	4.13%	6.960

Source: Yahoo Finance, Bloomberg

Dividends for selected banks that are tradable on stock exchanges range from 3.16% (Bank of America) to 6.20% (Raiffeisen Bank) with the median of 4.04% what is high dividend yield in comparison to state bonds. Two banks with N/A have decided to suspend dividends as a response to Covid-19 pandemic.

Price to earning ratio ranges from 4.86 (Raiffeisen Bank) to 10.56 (JPMorgan Chase) with a median of 7.305. This number is subsequently used to calculate valuation of selected Slovak banks in table 3.

Table 3. Market cap valuation for selected banks

Bank (country)	**P/E**	**Market cap**
VUB Bank (Slovakia), €	7.305	0.83
Erste Bank (Slovakia), €	7.305	1.27
Tatra Bank (Slovakia), €	7.305	0.98
Intesa Sanpaolo (Italy), €	7.030	30.60
Erste Bank (Austria), €	7.580	8.94
Raiffeisen Bank (Austria, €)	4.860	5.42
JPMorgan Chase (USA), $	10.560	286.30
Bank of America (USA), $	9.410	200.93
Citigroup (USA), $	6.960	105.23
median of 4–9	7.305	-

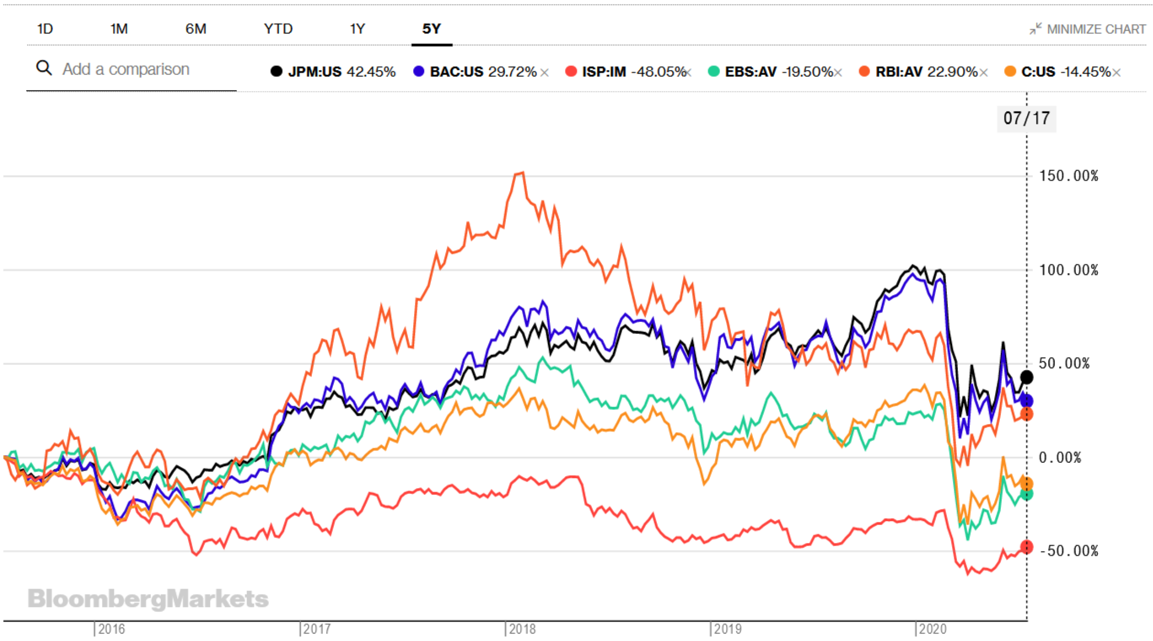
Source: Yahoo Finance, Bloomberg, own calculation

With median P/E ratio was calculated estimated Slovak banks valuation. End of year 2019 P/E ratios were used as well as annual 2019 earnings with the formula P/E ratio = market cap / earnings.

The estimated valuations are highest for Erste Bank (Slovenska Sporitelna) with the value of 1.27 billion euro, Tatra Bank with the value of 0.98 billion euro and VUB Bank with the valuation of 0.83 billion euro.

In the chart below are compared selected banks from the analysis that are tradable on stock exchange. The average 5 year performance without dividends is 2.18%. Substantial drop in market value can be observed in all banks after Covid-19 global pandemic in early 2020. Three banks have positive 5 year performance and three banks are negative.

Figure 1. Five years market performance of selected banks



Source: Bloomberg

5. CONCLUSION

As a next thing was looked at five years estimated valuation of three Slovak banks in the analysis from 2015 to 2019. The revenues were in total increased by 3.8% from 1.566 to 1.625. The earnings decreased by 1.6% from 430 million in 2015 to 423 million in 2019.

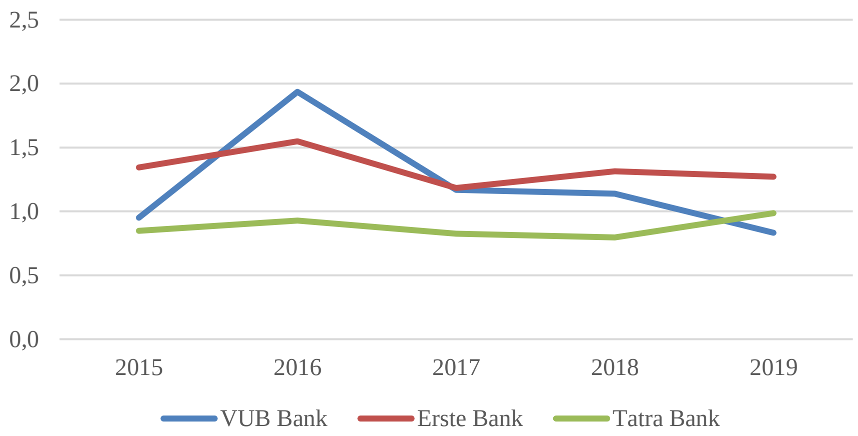
These financial results decreased estimated market cap of VUB Bank by 12.3%, as well as Erste Bank by -5.4%. Tatra Bank's estimated market share increased by 16.3%.

Table 4. Financial results of Slovak banks, in euro and billions

year	VUB Bank			Erste Bank			Tatra Bank		
	revenues	earnings	market cap	revenues	earnings	market cap	revenues	earnings	market cap
2015	0.563	0.130	0.950	0.526	0.184	1.344	0.477	0.116	0.847
2016	0.524	0.265	1.936	0.511	0.212	1.549	0.444	0.127	0.928
2017	0.515	0.160	1.169	0.608	0.162	1.183	0.432	0.113	0.825
2018	0.554	0.156	1.140	0.635	0.180	1.315	0.446	0.109	0.796
2019	0.527	0.114	0.833	0.642	0.174	1.271	0.456	0.135	0.986

Source: Finstat, own processing

Figure 2. Estimated valuations from 2015, in billions of euro



Source: Finstat, own processing

Fluctuations through years can be observed with the peak estimated value in 2016 with aggregated market cap for 3 banks of 4.41 billion euro and estimated market cap low of 3.09 billion euro in 2019 with the average over 5 years at 3.41 billion euro.

It can be concluded that according to last full year 2019 the most valuable Slovak bank is Erste Bank (Slovenska Sporitelna) with the value of 1.27 billion euro, followed by Tatra Bank with the value of 0.98 billion euro and VUB Bank with the valuation of 0.83 billion euro.

From the observed results can be also concluded that the estimated market caps were almost constant because of stable average revenues and profits. Average valuations were under pressure because of high competition in the market, low interest rates as well as rising costs on digitalization and automation. This can be observed also in lower hiring or cutting on some positions and almost non-rising salaries in Slovak bank sector.

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ASSOCIATION OF ESG FACTORS' DISCLOSURE WITH THE VALUE OF EUROPEAN COMPANIES FROM ENERGY INDUSTRY

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Abstract
This study investigates the association between environmental, social and governance (ESG) factors' disclosure and the value of European companies from energy industry. The sample consists of 55 companies from different categories within energy industry (Coal, Oil and Gas, Oil and Gas Related Equipment and Services, and Renewable Energy) and is based on all European companies from energy sector. To investigate the association between the combined and individual ESG factors disclosure and firm's value, two linear regression models have been designed. The research outputs indicate a positive association between ESG factors disclosure and firm's value for the European companies within energy industry (Oil and Gas Related Equipment and Services, and Renewable Energy subcategory) when firm's value is measured using market value. Nonetheless, debates need to be considered, as the impact of ESG factors, either combined or individual, is found to be both significant and negative for the European companies from Oil & Gas subcategory.

Keywords: *corporate performance, energy industry, environmental, social and corporate governance (ESG), European companies, firm's value*

1. INTRODUCTION

The disclosure of ESG factors provides a new alternative for corporate reporting, a unique and complex insight into a company's activity, focused on the value creation process. As opposed to the presentation of financial information which is limited to historical data and concentrated on the maximisation of shareholders' wealth seen as the major stakeholder of the company (Anning, 2018; Li et al., 2018), the disclosure of ESG factors is concerned with the long term development of company's activity. Subsequent to the last financial crisis and collapse of some leading companies, the stock markets, investors, regulatory bodies and even government authorities encourage companies to provide additional non-financial information focusing on ESG factors disclosure to enhance the understanding of company's activity.

Following the markets trend of increased focus on the long-term goals of the business detrimental to short-term goals, the paper investigates the possible association between ESG factors and firm's value for European companies from Energy sector. The research takes into account all individual dimensions of ESG factors (environment, social, and corporate governance). The environment factor describes the interaction between the organisation, its activity and environment represented by natural resources. The environmental factor considers any negative effect produced by the company's activities on the environment and how the company manages to limit these effects. The social factor refers to the relationship between the organization and its employees, customers, suppliers, and the communities in which the company is conducting its business activity. The corporate governance factor relates to the company's leadership system, the implemented controls systems, the relationship with the shareholders, and the connection between shareholders and executives.

The scope of this research is to investigate possible associations between environmental, social and governance (ESG) factors' disclosure and the value of European companies from energy industry. It contributes to a better understanding of the specific characteristics of energy industry in terms of ESG-related policies. The energy industry has been chosen as it may have a significant impact on sustainability, on employment and creating local developments opportunities (Rio et al., 2008) and of the increased focus shown by researchers and scientific journals' editors during previous years (Soytas et al., 2017; Patari et al., 2014; Lu et al., 2014), as highlighted by Lungu et al. (2019).

Considering the last decades, a significant number of studies investigating the relationship between the ESG factors and the firm's value have been published. Irrespective of the numerous papers studying this association, the results are mixed and contradictory. Evidence is provided for the existence of a positive relation (Friede et al., 2015, Li et al., 2018, Yoon et al., 2018, Yu et al., 2018, Wong et al., 2020), a negative one (Richardson and Welker, 2001, Brammer et al., 2006, Horváthová, 2010, Friede et al., 2015) or for no significant connection at all (Friede et al., 2015) when various measures are used for ESG factors and firm's value.

The present paper is based on one main hypothesis in determining whether there is an association between ESG factors disclosure and the firm's value for the European companies activating in energy sector.

H1: There is an association between ESG factors disclosure and the firm's value for the European companies acting in energy sector.

Several secondary assumptions result from the main hypothesis, as follows:
H1.1: There is an association between environment disclosure and the firm's value for the European companies acting in energy sector.
H1.2: There is an association between social disclosure and the firm's value for the European companies acting in energy sector.
H1.3: There is an association between corporate governance disclosure and the firm's value for the European companies acting in energy sector.

In order to develop a research design to address the hypotheses, ESG scores available on Thomson Reuters Eikon platform were used to measure the disclosure of ESG factors, as for the firm's value, market value and Tobin's Q were considered. The initial sampling size consisted of 88 European companies from energy industry, but the final sample was reduced to 55 companies with data over a period of four years (2015-2018), because of unavailability of data needed for research.

The results obtained offer additional evidence regarding the existence of an association between ESG factors and firm's value, similar with the ones provided by other studies that have investigated the relationship between ESG factors disclosure and firm's value (Richardson and Welker, 2001, Brammer et al., 2006, Schuler and Cording, 2006, Horváthová, 2010, Friede et al., 2015, Li et al., 2018, Fatemi et al., 2018).

The remainder of this paper is structured as follows: the second section highlights the prior research, the third section presents the research design by describing the sample and data, variables, and research method. The fourth section is dedicated to the presentation of the research results. Conclusions are provided in the fifth section.

2. LITERATURE REVIEW

Throughout the last decades, the literature has integrated numerous studies presenting mixed and conflicting results on the relationship between ESG factors disclosure and firm's value. A part of these papers present a positive association between the ESG factors and the firm's value (Friede et al., 2015, Li et al., 2018, Yoon et al., 2018, Yu et al., 2018, Wong et al., 2020), while others report a negative association (Richardson and Welker, 2001, Brammer et al., 2006, Schuler and Cording, 2006, Horváthová, 2010, Jacob et al., 2010, Friede et al., 2015) or even no influence at all (Friede et al., 2015).

As a consequence of the markets increased focus on ESG factors disclosure and of the fact that the investors and other stakeholders (clients, suppliers, banks, local communities, governments, employees, and other) perceive ESG factors as tools used to improve the firm's financial performance (Zhao et al., 2018), further studies on the relationship between ESG factors and company's value are expected to be generated in the following years.

A reference study for the assessment of the relationship between ESG factors disclosure and firm's value is the one Friede et al. (2015) have conducted though a meta-analysis by aggregating more than 2200 individual studies. The authors' findings suggest that 90% of the studies demonstrates a non-negative relation between ESG and corporate financial performance, and that the majority of the studies considered show positive findings related to the studied association. Li et al. (2018) has also investigated whether the disclosure of ESG factors may have an influence on the firm's value. By applying on two regression models, Li et al. (2018) concluded that there is a positive association between ESG disclosure and firm's value.

Fatemi et al. (2018) have performed a research on the connection between ESG factors disclosure and firm's value. Their conclusions state that ESG strengths increase firm's value while ESG weaknesses decrease it. Additionally, Fatemi et al. (2018) established that the disclosure of ESG factors has a moderating role in diminishing the negative effects of weaknesses and reducing the positive effect of strengths. Other studies supporting the positive association between ESG factors disclosure and firm's value are the ones published by Yu et al. (2018) and Yoon et al. (2018). Yu et al. (2018) stated that the implementation of ESG disclosure for average listed companies will increase the firm's value. Based on the research performed, Yoon et al. (2018) have managed to measure the sustainability by using ESG factors for sensitive industries such as energy, material and utility sector and obtained a positive and significant impact of the ESG factors on market value. Yoon et al. (2018) highlighted that for the sensitive industries, the impact of ESG factors on firm's value tends to be less significant as compared to the non-sensitive industries.

The impact between ESG certification and firm's value for Malaysian listed companies has been researched by Wong et al. (2020). Their results show positive impact of ESG certification on firm's value (measured by Tobin's Q). All the studies that present a positive association between ESG factors disclosure and firm's value encourage organisations to report aspects related with ESG factors and transpose the focus from short-term objectives to long-term value creation process.

Richardson and Welker (2001) have studied the relationship between ESG disclosure and market value for a sample of Canadian companies. The results obtained state that the association between ESG disclosure and market value is a negative one. Brammer et al. (2006) describe a negative association between social performance and stock returns for UK companies. Furthermore, the research conducted by Horváthová (2010) shows a possible negative association between environmental and financial performance. Schuler and Cording (2006) have identified a negative relationship between ESG factors and financial performance and suggested that while focusing on ESG related activities, the managers may overlook other activities that could have been more profitable for the company. In time, ESG practices may lead to poor financial performance for the company.

Liu (2020) studied the association between environmental performance and financial performance for distinct industries by performing a multilevel longitudinal analysis. The author identifies an overall positive relationship between environment performance and financial performance. Nonetheless, a negative association is also established between environment performance and financial performance for some sensitive industries such as utilities. Liu (2020) offers as a possible explanation for the negative relationship a general lack of trust, especially from the customers in that respective industry.

Jacobs et al. (2010) analysed the effects of environmental performance on the market value of the firms through an empirical investigation. The authors have measured the stock market reaction by realising two types of announcements: Corporate Environment Initiatives – representing mitigants reported by the company and designed to reduce the impact of company's activities on the environment, and Environment Awards and Certification announcements – describing the recognition received by the company from third parties. The results of the investigation suggest that the market is selective in manifesting a reaction to announcements of environmental performance, moreover, certain types of announcements are considered to have a negative impact.

3. RESEARCH DESIGN

3.1 Sample and data

To investigate the association between the ESG factors disclosure and firm's value for European companies within energy industry, information has been gathered regarding the companies from this category. Out of 88 European companies identified, for 33 companies, no financial information, or only partial ESG scores were found at the time of data collection. For the remaining 55 companies, with the required data available on Thomson Reuters site, a total sample of 220 company-year observations, grouped on 4 years (2015–2018), was tested. The companies were also classified in 4 sub-categories of the Energy industry (Coal, Oil and Gas, Oil & Gas Related Equipment and Services, and Renewable Energy – Table 1).

Table 1. Descriptive of the database

Industry sub-category	**Total**
Panel A. Number of companies included in the analysis	
Coal	1
Oil & Gas	32
Oil & Gas Related Equipment and Services	18
Renewable Energy	4
Total companies	**55**
Panel B. Number of company-year observations included in the analysis	
Coal	4
Oil & Gas	128
Oil & Gas Related Equipment and Services	72
Renewable Energy	16
Total company-year observations	**220**

Thomson Reuters Eikon platform was used to collect the scores for the combined and individual ESG factors presented as numerical values for the period 2015–2018. The 4-year period was selected since most companies selected have the scores available for this period. The financial information measuring the firm's value for the companies in the sample was also obtained from the Thomson Reuters Eikon platform. All the figures taken into consideration are presented in US dollars as it represents a main global currency.

3.2 Variables

The variables used in this research model are detailed in Table 2. To conduct a complex research on the dependent variable measuring the firm's value, two financial indicators were considered: the market value (also used by Fatemi et al., 2018 and Brammer et al., 2006) included in the regression model as natural logarithm (LNMV) and TOBIN's Q (considered also in Li et al., 2018; Fatemi et al., 2018; and Yu et al., 2018 studies) computed as market value scaled by total assets.

The ESG score available on Thomson Reuters Eikon platform is considered to be the independent value agreed for the linear regression models. The scores vary from 0 to 100% and are computed based on data concerning environmental, social, and corporate governance aspects. Thomson Reuters ESG scores were utilized because the information on the basis of which they are computed comes directly from the companies, hence, there is a high degree of accuracy and reliability for these scores. ESG scores are variable used in numerous other studies which investigates the relationship between the ESG factors disclosure and firm's value (Li et al., 2018; Fatemi et al., 2018; Yoon et al., 2018), regardless of the source from which they have been extracted (Bloomberg; Kinder, Lydenberg and Domini; Thomson Reuters). With the scope of further explaining the research model, detailed scenarios on the environment, social and corporate governance pillars were also considered.

Table 2. Variables used in the linear regression model

Variable name	Type of variable	Description of variable	Referenced studies/research
LNMV	dependent	Natural logarithm of market value available on Thomson Reuters platform	Fatemi et al. (2018), Li et al. (2018), Brammer et al. (2006)
Tobin's Q	dependent	Computed as the relation between market value and total assets	Li et al. (2018), Fatemi et al. (2018), Yu et al. (2018)
ESG	independent	ESG scores available on Thomson Reuters	Li et al. (2018), Fatemi et al. (2018), Yoon et al. (2018)
ENV	independent	Environment score available on Thomson Reuters	Fatemi et al. (2018), Yoon et al. (2018)
SOC	independent	Social score available on Thomson Reuters	Fatemi et al. (2018), Yoon et al. (2018)
GOV	independent	Corporate Governance score available on Thomson Reuters	Fatemi et al. (2018), Yoon et al. (2018)
CASH_TA	control	Computed as the relationship between cash and cash equivalents value and total assets, both publish on Thomson Reuters	Li et al. (2018)
LNTR	control	Natural logarithm of total revenues related with the business activities of the company, available on Thomson Reuters	Fatemi et al. (2018)

Apart from ESG combined and individual scores, which is set as the independent variable in the linear regression models, data for the following control variables identified by the literature to be noteworthy in identifying the relationship between the ESG factors disclosure and firm's value: total revenues from business activity (Fatemi et al., 2018), for which it was applied a natural logarithm function for comparability purposes (LNTR), and CASH_TA ratio (Li et al., 2018) computed as the value of cash and cash equivalents scaled by total assets.

3.3 Research method

The linear regression analysis was used to estimate the type of relationship between the dependent variable (firm's value) and the independent variable (ESG factors). Regression analysis was also applied in previous studies on a fixed dataset (Fatemi et al., 2018; Li et al., 2018) to conclude on the association between the ESG factors disclosure and firm's value. The SPSS statistical program was used to run the regression models to the selected sample. The regression models were applied to the ESG combined score and to the score of each individual factor (environment, social and corporate governance) to assess in a holistic manner the impact of ESG factors disclosure to firm's value.

The primary research hypothesis on the association between ESG factors disclosure and the firm's value for European companies within Energy sector is tested within two main scenarios. Thus, two linear regression models were created, one using natural logarithm of market value to represent the dependent variable, and the other one using Tobin's Q for the dependent variable:

Scenario 1 $LNMVt = \beta0 + \beta1ESG + \beta2CASH\_TAt + \beta3LNTRt + \varepsilon t$

Scenario 2 $Tobin's\ Qt = \beta0 + \beta1ESGt + \beta2CASH\_TAt + \beta3LNTRt + \varepsilon t$

Each of the two main scenarios is disaggregated in three secondary scenarios which assesses the model for the three pillars of ESG factors: environment, social, and governance:

Scenario 1.1 $LNMVt = \beta0 + \beta1ENVt + \beta2CASH\_TAt + \beta3LNTRt + \varepsilon t$

Scenario 1.2 $LNMVt = \beta0 + \beta1SOCt + \beta2CASH\_TAt + \beta3LNTRt + \varepsilon t$

Scenario 1.3 $LNMVt = \beta0 + \beta1GOVt + \beta2CASH\_TAt + \beta3LNTRt + \varepsilon t$

Scenario 2.1 $Tobin's\ Qt = \beta0 + \beta1ENVt + \beta2CASH\_TAt + \beta3LNTRt + \varepsilon t$

Scenario 2.2 $Tobin's\ Qt = \beta0 + \beta1SOCt + \beta2CASH\_TAt + \beta3LNTRt + \varepsilon t$

Scenario 2.3 $Tobin's\ Qt = \beta0 + \beta1GOVt + \beta2CASH\_TAt + \beta3LNTRt + \varepsilon t$

The regression models have been created based on key dependent and independent variables identified in the specialized literature to be appropriate in assessing the type of connection between ESG factors disclosure and firm's value. The subscript allocated to each variable within the model represents the company-year observation. The independent variable of the research model is represented by the combined, or individual ESG factors scores, a recurrent choice in the prior studies. The numerical values for the scores were downloaded for Thomson Reuters platform, where the information was available. As for the dependent variable, representing the firm's value, two variables were applied for an in deep understanding: market value and Tobin's Q, the data was also obtained from the Thomson Reuters platform. The research models included the following controls variables, identified in previous literature to be pertinent: cash and cash equivalents scaled by total assets, and total revenues from business activities.

4. RESEARCH RESULTS

4.1 Descriptive statistics and correlation analysis

Prior to the analysis of the coefficients of the two regression models based on different scenarios resulting from combinations of independent and dependent variables, the data used for the research has been assessed. Descriptive statistics are computed for the regression variables in SPSS software (Table 3) and addressed the assumption that the data is normally distributed, and the regression models based on these variables are valid. Due to a high skewness, the variables market value and total revenues were transformed using natural logarithms.

Assessing the Pearson correlation coefficient (Table 4, above the diagonal), it can be observed that ESG combined score (ESG), environment score (ENV), social score (SOC) and corporate governance score (GOV) are positively and strongly correlated with market value (LNMV), at a significance level of .01, providing evidence for supporting the research hypotheses H1, H1.1, H1.2 and H1.3. Additionally, the results obtained for ESG combined score (ESG), environment score (ENV), social score (SOC) and corporate governance score (GOV) in correlation with market value (LNMV) are also validated by the Spearman correlation (Table 4, below the diagonal), with a coefficient of 0.352 (ESG), 0.387 (ENV), 0.317 (SOC) and respectively of 0.305 (GOV), at a significance level of .05, showing a slightly lower, but still a highly significant positive association between all the independent variables and market value, the dependent variable.

Table 3. Descriptive Statistics

Variables	**N Statistic**	**Minimum Statistic**	**Maximum Statistic**	**Mean Statistic**	**Std. Deviation Statistic**	**Variance Statistic**	**Skewness Statistic**	**Std. Error**	**Kurtosis Statistic**	**Std. Error**
ESG	220	8.0000	88.0000	56.0641	17.9635	322.6879	-0.4282	0.1640	-0.3866	0.3266
ENV	220	2.8000	35.4000	19.1941	6.2262	38.7660	-0.2693	0.1640	-0.3435	0.3266
SOC	220	3.4000	37.4000	22.4200	7.5219	56.5792	-0.3927	0.1640	-0.2878	0.3266
GOV	220	1.9000	27.0000	14.4827	5.0123	25.1234	-0.0005	0.1640	-0.1347	0.3266
LNMV	220	3.1000	11.9000	8.2205	1.8627	3.4695	0.2983	0.1640	0.0435	0.3266
Tobin’s Q Ratio	220	0.1000	2.8000	0.5514	0.4256	0.1811	2.0744	0.1640	5.9718	0.3266
CASH_TA	220	0.0000	1.0000	0.0995	0.1203	0.0145	-2.7555	0.1640	14.7792	0.3266
LNTR	220	2.0000	12.0000	8.4227	2.1107	4.4552	-0.2425	0.1640	-0.3644	0.3266
Valid N (listwise)	220									

Notes: The variables listed are defined in Table 2.

Table 4. Pearson/Spearman correlation matrix

Variables	**ESG**	**ENV**	**SOC**	**GOV**	**LNMV**	**Tobin’s Q**	**CASH_TA**	**LNTR**
ESG	1	0.984**	0.952**	0.935**	0.406**	0.022	-0.234**	0.441**
ENV	0.984**	1	0.902**	0.934**	0.424**	0.049	-0.188**	0.470**
SOC	0.939**	0.908**	1	0.796**	0.404**	-0.057	-0.305**	0.460**
GOV	0.949**	0.928**	0.818**	1	0.323**	0.103	-0.148*	0.310**
LNMV	0.352**	0.387**	0.317**	0.305**	1	0.252**	-0.321**	0.866**
Tobin’s Q Ratio	0.025	0.029	-0.058	0.088	0.296**	1	0.246**	-0.042
CASH_TA	-0.177**	-0.142*	-0.219**	-0.142*	-0.237**	0.285**	1	-0.312**
LNTR	0.380**	0.436**	0.399**	0.278**	0.832**	-0.032	-0.205**	1

*Notes: In the above table, Pearson (Spearman) correlations are presented above (below) the diagonal of the matrix. ** Significance at the .01 level. * Significance at the .05 level.*

4.2 Discussion on the research hypotheses

In order to assess the association between ESG factors disclosure and firm's value, the correlation has been analysed for the full sample considered (220 observations), and for the 3 main subcategories within the industry (Oil and Gas, Oil & Gas Related Equipment and Services, and Renewable Energy) as significant econometric models in terms of sample size and F statistics were identified for these three subcategories presented in Table 5 and Table 6. Thus, the subcategories selected are Oil and Gas, Oil & Gas Related Equipment and Services and Renewable Energy, based on the outputs resulted from SPSS software.

The relationship between ESG combined scores and firm's value represented by market value, overall and per each of the three subcategories, is analysed in the first main scenario (Scenario 1), presented in Table 5. The regression model is the following: $LNMVt = β0 + β1ESGt + β2CASH\_TAt + β3LNTRt + εt$. Three sub-scenarios are disaggregated from Scenario 1 to assess the association between each of the ESG factors (environment, social and corporate governance) and firm's value, represented in this scenario by natural logarithm of market value.

Table 5. The impact of market value on ESG factors' disclosure

Dependent Variable: LNMV	Overall sample		Oil & Gas		Oil & Gas Related Equipment and Services		Renewable Energy	
Scenario 1	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**
(constant)	1.929	0.000	2.020	0.000	3.647	0.000	-2.779	0.000
ESG	0.002	0.554	-0.021	0.000	0.017	0.016	0.027	0.001
CASH_TA	-0.825	0.138	-1.362	0.073	-2.776	0.112	3.831	0.000
LNTR	0.741	0.000	0.869	0.000	0.438	0.000	1.062	0.000
F statistic	220.539	0.000	198.078	0.000	10.660	0.000	370.779	0.000
Durbin-Watson	2.338		2.554		1.872		1.871	
Adjusted R-square	0.750		0.823		0.290		0.987	
Scenario 1.1	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**
(constant)	1.949	0.000	2.016	0.000	3.659	0.000	-2.781	0.000
ENV	0.006	0.620	-0.059	0.000	0.053	0.017	0.069	0.001
CASH_TA	-0.848	0.125	-1.344	0.077	-2.782	0.112	3.836	0.000
LNTR	0.742	0.000	0.867	0.000	0.438	0.000	1.062	0.000
F statistic	220.399	0.000	197.073	0.000	10.629	0.000	369.683	0.000
Durbin-Watson	2.335		2.553		1.869		1.869	
Adjusted R-square	0.750		0.822		0.289		0.987	
Scenario 1.2	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**
(constant)	2.008	0.000	2.018	0.000	3.655	0.000	-2.774	0.000
SOC	-0.001	0.908	-0.049	0.000	0.044	0.016	0.096	0.001
CASH_TA	-0.874	0.120	-1.361	0.073	-2.780	0.112	3.834	0.000
LNTR	0.751	0.000	0.869	0.000	0.438	0.000	1.065	0.000
F statistic	220.082	0.000	197.904	0.000	10.643	0.000	369.682	0.000
Durbin-Watson	2.327		2.555		1.871		1.858	
Adjusted R-square	0.750		0.823		0.289		0.987	
Scenario 1.3	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**
(constant)	1.807	0.000	2.015	0.000	3.654	0.000	-2.784	0.000
GOV	0.021	0.108	-0.087	0.000	0.063	0.016	0.078	0.001
CASH_TA	-0.811	0.140	-1.351	0.075	-2.789	0.111	3.837	0.000
LNTR	0.735	0.000	0.868	0.000	0.437	0.000	1.062	0.000
F statistic	223.593	0.000	197.562	0.000	10.654	0.000	368.192	0.000
Durbin-Watson	2.359		2.555		1.872		1.866	
Adjusted R-square	0.753		0.823		0.290		0.987	

The regression analysis results for the first scenario indicate that a proportion between 29% and 98% (approximate 75% for the overall sample, 82% for Oil & Gas, 29% for Oil & Gas Related

Equipment and Services and 98% for Renewable Energy) of the total variation in the market value of the European companies acting in energy industry, both globally and per subcategory of industry, may be explained by combined and specific ESG factors' disclosure, when controlling for revenues and cash scaled by total assets. However, there are only 4 companies included in Renewable Energy subcategory, thus resulting a total number of only 16 observation, which is an extremely limited data set to assess the variation in the dependent variable (market value).

The results presented in Table 5 supports the positive association between the combined and individual ESG factors disclosure and firm's value measured by market value only for Oil & Gas Related Equipment and Services, and Renewable Energy subcategories. Previous studies (Li et al., 2018, Fatemi et al., 2018, Yoon et al., 2018, Yu et al., 2018, Wong et al., 2020) obtained similar results in what concerns the positive relationship between ESG factors disclosure and firm's value. Nevertheless, the results obtained for Renewable Energy may be overlocked due to the limited number of observations (16) for this subcategory. For the overall sample no significant connection between the combined and individual ESG factors disclosure and firm's value represented by market value has been identified. In what concerns Oil & Gas subcategory, a negative and significant association is obtained between the combined and individual ESG factors disclosure and firm's value measured by market value. Earlier studies within the literature (Richardson and Welker, 2001, Brammer et al., 2006, Horváthová, 2010, Friede et al., 2015) found similar results indicating a negative relationship between ESG factors disclosure and firm's value.

Considering the significance of the influence, the impact of the independent variable on the market value became significant for Oil & Gas, Oil & Gas Related Equipment and Services, and Renewable Energy, with the mention that for the last subcategory, a particularly limited data set was obtained. Disaggregating the coefficient analysis on subcategories and scenarios, it is observed that not all the variables are considered to have a significant impact on the correlation, except for Renewable Energy subcategory where all variables included in the regression model (independent and control) have a significant impact on the correlation. Thus, for Oil & Gas, the independent variables (ESG, ENV, SOC, GOV) and control variable, LNTR, are significant for the overall sample, for each scenario presented in Table 5, and are generating a significant impact on the dependent value, market value in this case. As for Oil & Gas Related Equipment and Services subcategory, the independent variables and control variable, LNTR, are significant for the overall sample and all the scenarios assessed, but without having a significant influence on the dependent variable (only 29%). Hereafter, the main hypothesis of this study (H1) and the three secondary hypotheses are validated by the results of the linear regression model only for the Renewable Energy subcategory.

The association between ESG combined scores and firm's value represented by Tobin's Q on subcategories of Energy industry is assessed in the second main scenario (Scenario 2) presented in Table 6. The regression model is the following: Tobin's $Qt = \beta 0 + \beta 1ESGt + \beta 2CASH\_TAt + \beta 3LNTRt + \varepsilon t$. Three sub-scenarios are disaggregated from Scenario 2, to evaluate the correlation between each of the ESG factor (environment, social and corporate governance) and firm's value, represented in this scenario by Tobin's Q. The subcategories selected are Oil & Gas, Oil & Gas Related Equipment and Services and Renewable Energy based on the outputs resulted from SPSS software.

For Renewable Energy, about 84% of the total variation in firm's value for companies acting in energy industry may be explained by combined and individual ESG factors' disclosure (considered as independent variable, ESG combined score – scenario 2, environment score – scenario 2.1, social score – scenario 2.2 and corporate governance score – scenario 2.3). However, the limited number of observations for this subcategory (16 observations) must be taken into account, when considering the total variation in the dependent variable. For Oil

& Gas and Oil & Gas Related Equipment and Services, but also for the overall sample, the values of Adjusted R Square are between 3% and 10%, therefore, explaining on an extremely limited degree the total variation in firm's value.

Table 6. The impact of Tobin's Q on ESG factors' disclosure

Dependent Variable: Tobin's Q	Overall sample		Oil & Gas		Oil & Gas Related Equipment and Services		Renewable Energy	
Scenario 2	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**
(constant)	0.340	0.016	0.394	0.027	1.114	0.001	-1.336	0.000
ESG	0.002	0.270	-0.003	0.191	0.003	0.271	-0.001	0.881
CASH_TA	0.943	0.000	0.792	0.045	0.669	0.336	1.823	0.000
LNTR	0.001	0.940	0.026	0.210	-0.105	0.004	0.267	0.000
F statistic	5.171	0.002	2.160	0.096	3.695	0.016	27.916	0.000
Durbin-Watson	1.973		1.839		1.953		3.034	
Adjusted R-square	0.054		0.027		0.102		0.843	
Scenario 2.1	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**
(constant)	0.338	0.014	0.393	0.028	1.117	0.001	-1.336	0.000
ENV	0.007	0.170	-0.009	0.207	0.010	0.274	-0.002	0.878
CASH_TA	0.929	0.000	0.795	0.044	0.668	0.337	1.823	0.000
LNTR	-0.002	0.920	0.025	0.219	-0.105	0.004	0.267	0.000
F statistic	5.410	0.001	2.119	0.101	3.690	0.016	27.919	0.000
Durbin-Watson	1.988		1.844		1.953		3.034	
Adjusted R-square	0.057		0.026		0.102		0.843	
Scenario 2.2	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**
(constant)	0.391	0.005	0.394	0.027	1.116	0.001	-1.334	0.000
SOC	0.000	0.951	-0.008	0.192	0.008	0.273	-0.002	0.895
CASH_TA	0.915	0.000	0.792	0.045	0.669	0.337	1.821	0.000
LNTR	0.007	0.626	0.026	0.211	-0.105	0.004	0.266	0.000
F statistic	4.738	0.003	2.158	0.096	3.690	0.016	27.901	0.000
Durbin-Watson	1.926		1.839		1.954		3.038	
Adjusted R-square	0.049		0.027		0.102		0.843	
Scenario 2.3	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**	**Coefficient**	**Sig.**
(constant)	0.286	0.041	0.394	0.028	1.115	0.001	-1.336	0.000
GOV	0.012	0.038	-0.013	0.197	0.011	0.269	-0.002	0.881
CASH_TA	0.941	0.000	0.794	0.045	0.667	0.338	1.823	0.000
LNTR	-0.001	0.968	0.025	0.213	-0.105	0.004	0.267	0.000
F statistic	6.281	0.000	2.146	0.098	3.698	0.016	27.916	0.000
Durbin-Watson	2.010		1.840		1.953		3.034	
Adjusted R-square	0.067		0.026		0.102		0.843	

The results presented in Table 6 show a different impact of ESG factors' disclosure on the firm's value, when using Tobin's Q as the dependent variable as compared to the market value of the company. Advancing the analysis on subcategories of Energy industry and secondary scenarios, the findings show that not all the variables have a significant impact on the firm's value. Moreover, it can be observed that only governance factor (GOV) as an independent variable has a significant (with a maximum significance level of 95%) and positive influence on firm's value for the overall sample. As for the three secondary scenarios, all the independent variables (ESG, ENV, SOC) have no significant impact on firms' value measured here by Tobin's Q. Thus, the regression model does not explain the association detailed in the research hypotheses, except for the association between corporate governance disclosure and the firm's value for the European companies.

The impact of the control variable CASH_TA on the dependent variable, Tobin's Q, is positive and significant for the overall sample, Oil & Gas, and Renewable Energy subcategories, when considering both combined and individual ESG scores. Furthermore, LNTR has a positive and significant impact on the firm's value for Renewable Energy subcategory, nonetheless, the impact is negative and significant for Oil & Gas Related Equipment and Services.

5. CONCLUSIONS

This research investigates the associations between ESG factors disclosure and firm's value for European companies acting in energy sector. Previous empirical evidence offers mixed results when unidirectional linear relationships are tested. Based on the findings of this research, particular discussion is conducted for three subcategories of industry.

The regression models were created initially for the combined ESG factors and then, disaggregated for each factor (environment, social and corporate governance). Findings confirm the positive association between the combined and individual ESG factors disclosure and firm's value measured by market value only for Oil & Gas Related Equipment and Services, and Renewable Energy subcategories. A positive connection has also been identified between corporate governance factor (GOV) and firm's value measured by Tobin's Q for the overall sample (scenario 2.3). Similar results concerning the positive relationship between ESG factors disclosure and firm's value (Li et al., 2018, Fatemi et al., 2018, Yoon et al., 2018, Yu et al., 2018, Wong et al., 2020) were obtained in prior studies. The results are consistent with the main hypothesis developed in the research model, assuming that there is an association between ESG factors disclosure and the firm's value for European companies within Energy industry.

A negative and significant association has been obtained between the combined and individual ESG factors disclosure and firm's value measured by market value for Oil & Gas subcategory. This is in accordance with other studies within the literature (Richardson and Welker, 2001, Brammer et al., 2006, Horváthová, 2010, Friede et al., 2015) that found similar negative results for the relationship between ESG factors disclosure and firm's value. Using two different dependent variables has enhanced the certainty regarding the evidence obtained for the investigated association.

The main contribution of this investigation to the literature consists of the evidence obtained about the negative association between ESG factors disclosure and firm's value for companies included in Oil & Gas subcategory of the Energy sector and the positive association identified for companies within Oil & Gas Related Equipment and Services, and Renewable Energy subcategory.

Future research may be extended into determining the type of association between ESG factors disclosure and firm's value for companies from other sensitive industries or even companies from non-sensitive industries. A difference in difference analysis may be conducted on a generalized sample including companies from all industries. Particularities of the companies from sensitive industries as compared to companies from non-sensitive industries may be identified.

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DO ROMANIAN BANKS AIM TO ENHANCE LEGITIMACY WHEN REPORTING IFRS 9 FOR THE FIRST TIME?

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Abstract
This study explores the factors that affected IFRS 9 disclosures in the 2018 financial statements of Romanian banks. Our objective was to assess whether Romanian banks have embraced the opportunity of enhancing their legitimacy when issuing the first set of financial statements in which financial instruments were classified and measured in accordance with IFRS 9. We conducted a content analysis based on a checklist with 104 items describing IFRS 9 requirements and analysed whether there is an association between the level of IFRS 9 disclosures and features of Romanian banks, such as size, auditor and subsidiary bank status in an international banking group, within the neo-institutionalism paradigm. We conclude that the level of disclosure is related to the size of the institution, but regardless of that, there is a lot of room of improvement for the Romanian banks in order to issue clear, transparent and detailed financial statements.

Keywords: *banks, financial instruments accounting, IFRS 9 disclosures, legitimacy theory*

1. INTRODUCTION

Over time, it has been observed that in periods of financial decline, such as financial crises and immediate periods, regulators' interest in issuing new financial standards or revising existing ones increases (Pucci, 2017, p. 20). Although the IASB stated many years ago that it intends to change IAS 39 to an improved standard, it only managed to achieve this goal after the global Financial Crisis increased the pressure of the business environment. The response was predictable, replacing the "old" IAS 39 standard with a new and apparently improved version of it, IFRS 9 "Financial Instruments". The application of the new standard, which seeks to remedy some of the problems, which led to the Financial Crisis, may be the chance for banks to enhance legitimacy in stakeholders' eye. According to Davidson (1996), it is difficult for an industry to legitimize its image after a major crisis. Thus, a rigorous application of IFRS 9, followed by full and transparent reporting, may be the key to strengthening legitimacy for banks.

Legitimacy theory, derived from the principles of the neo-institutionalist paradigm, tries to explain the actions of an organization as a result of the pressure of its external environment. Legitimacy is born with the organization itself, but it can be lost and regained over time because of the actions of the entity. Banking institutions, which are entities of systemic importance to a nation's economy, are constantly under the scrutiny of the public. This justifies their efforts to strengthen their legitimacy through various actions, including transparency in the financial information.

O'Sullivan & O'Dwyer (2009) consider that disclosure is a mechanism designed to maintain and increase the entity's legitimacy. For this reason, many previous empirical studies have analysed the level of disclosures of financial and non-financial entities (Cerf, 1961; Buzby 1974; Cooke, 1989; Raffournier, 1995; Craig and Diga, 1998; Haniffa and Cooke, 2002 etc.).

Other studies analysed the relationship between the characteristics of banks and the level of their disclosure. For example, Hamid (2004) studied the relationship between the characteristics of 48 financial institutions in Malaysia and disclosures about corporate social practices. Linsley et al. (2006) studied the differences between the presentations on risk practices between banks in the United Kingdom and Canada. Helbok and Wagner (2006) conducted an extensive study on a sample of 142 banks from three continents to analyse the relationship between disclosures about operational risk and the characteristics of institutions. Hossain and Reaz (2007) studied the relationship between disclosures about corporate practices and the characteristics of Indian banks. Sanchéz-Ballesta and Bernal Llorens (2010) conducted a study on corporate practices, referring to information published by banks in the Madrid Gazette over a period of 20 years. Oliveira et al. (2011) analysed the presentations on risk practices of Portuguese banks. Some of above-mentioned studies found a positive association between the size of the bank and the level of disclosure (Hamid, 2004; Linsley et al., 2006; Hossain and Reaz, 2007; Sanchéz-Ballesta and Bernal Llorens, 2010; Oliveira et al., 2011) as well as for other indicators such as age of the bank or listing status (Hamid, 2004; Oliveira et al., 2011). In case of other indicators related to profitability, liquidity and solvency, the results were divergent.

The objective of our studies is to assess whether Romanian banks have embraced the opportunity of enhancing their legitimacy in the eyes of stakeholders when issuing the first set of financial statements in which financial instruments were classified and measured in accordance with IFRS 9. Our research seeks to identify the association between banks characteristics such as size, auditor and subsidiary bank status in an international banking group, within the neo-institutional theory and the level of IFRS 9 disclosures. Our aim is to determine what are the intrinsic banks features which influence the level of disclosures, by referring to legitimacy theory and neoinstitutionalism paradigm.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

DiMaggio and Powell (1991) identified three types of isomorphisms in the theory of neoinstitutionalism: coercive, mimetic and normative, to which we will refer when defining our hypothesis.

The first type of isomorphism identified by DiMaggio and Powell (1991) is coercive and it is based on the idea of resource dependence and the concept of legitimacy. According to Irvine (2008), institutional pressures are the main source of coercion on organizations, as they must comply with the rules and requirements of a large mass of people and institutions, from international organizations, regulators, customers, suppliers etc.

Many previous studies have shown a direct and positive link between the size of an organization and the level of information presented in financial statements (Firth, 1979; Beattie et al., 2004; Hossain et al., 1995, Beretta & Bozzolan, 2004). This direct relationship is explained precisely through the theory of legitimacy: large banks are much more exposed to public interest and are forced to report more information to validate their reputation (Alsaeed, 2006). Another explanation for the relationship between the size of an organization and the level of information it presents is based on agency theory: the cost of the agency is higher for larger entities, which generally have a larger number of different shareholders (Watts and Zimmerman, 1983). Social and political pressures on the organization also force banks to report more information on risk management practices (Brammer and Pavlin, 2008). The size of the bank can also be translated into a greater capacity to collect, analyse and present information (Alsaeed, 2006; Van Hoose, 2007).

Hypothesis 1: There is a positive association between the size of a bank and the level of disclosure in relation to first time application of IFRS 9.

The second type of isomorphism identified by DiMaggio and Powell (1991) is mimetic isomorphism, which refers to the tendency of organizations to imitate other organizations that are perceived as successful (Judge et al., 2010).

Large international banking groups have resources available to create sound risk management systems and practices, which they tend to share with their subsidiaries and associates from the group. Thus, at the time of transition to complex accounting standards, such as IFRS 9, which required a great deal of time and resources to ensure proper implementation, large international banking groups prepared years in advance, by hiring consultants, investing in employee development and systems, validating and testing methods and practices. Also, mother-banks have their own requirements of preparing IFRS financial statements and usually publish very comprehensive and detailed disclosures in their annual reports. In general, these banking groups shared their knowledge, practices and systems with all their subsidiaries, so that the latter imitated the models, in order to ensure a more appropriate implementation and implicitly adequate reporting. Banks that are part of an international banking group will imitate practices and reuse financial information regarding the application of IFRS 9 from other companies within the group, usually mother-banks.

Hypothesis 2: There is a positive association between subsidiary bank status (i.e. the bank is part of an international banking groups) and the level of disclosure in relation to first time application of IFRS 9.

Normative isomorphism, the latest type in institutional theory, refers to collective values and beliefs that lead to the conformity of thinking and actions within institutions (DiMaggio & Powell, 1991). The level of education and training, for example, are the results of normative pressures (DiMaggio & Powell, 1983; Judge et al., 2010).

Dumontier & Raffournier (1998) analysed the role of the auditor in the accounting practice of institutions and found that large audit firms tend to impose on clients compliance with complex accounting standards, in order to maintain their own reputation. Also, Chalmers & Godfrey (2004) showed that large financial auditors impose an increased level of information presented in the financial statements of their clients. Moreover, in relation to agency theory, financial audit is seen as one of the means to reduce the agency costs (Watts & Zimmerman, 1983), therefore institutions that have high agency costs tend to hire reputable auditors for financial audit.

Hypothesis 3: There is an association between the auditor and the level of disclosure in relation to first time application of IFRS 9.

3. RESEARCH METHOD

Sample

The sample includes all Romanian banks. Of the 33 banks active on the Romanian market as of 31st of December 2018, 7 are branches of foreign credit institutions. These branches are not required to publish audited financial statements for the activity in Romania and generally do not publish complete reports on the website of the Romanian branch, therefore they were excluded from our research. Of the remaining 26 banks, 2 more were excluded because we were not able to identify audited financial statements on the bank's website, so the final sample included 24 commercial banks in Romania, representing 99.97% of the total assets of commercial banks in Romania (other than branches of foreign banks).

Dependent variable

In order to analyse the impact of the legitimacy theory on the level of disclosures related to the first time application of IFRS 9 by Romanian banks, we used the content analysis. This method consists in classifying the relevant information into several categories that aim to capture the aspects that want to be analysed.

Content analysis was the method used in most studies that analysed the relationship between the characteristics of an entity and the level of disclosures. However, there is another relevant aspect in relation to content analysis, which is the unit of measurement. Authors such as Amran et al. (2009), Beretta and Bozzolan (2004, Oliveira et al. (2011) used the number of sentences as a unit of measurement in their studies. Abraham and Cox (2007) used the number of words, while Deumes and Knechel (2008) and Hassan (2009) developed their own checklists. All of these methods have their advantages and disadvantages, some being more difficult to use due to different language or font used in the reports.

In order to identify the practice of Romanian banks regarding the level of disclosures in the financial statements of 2018 regarding the first time application of IFRS 9, both from a qualitative and quantitative perspective, we chose to develop and use a checklist. This checklist includes 104 items grouped in eight main categories: 1) Statement of profit or loss and Other Comprehensive Income / P&L (9 items); 2) Statement of financial position / Balance sheet (12 items); 3) Statement of changes in equity (1 item); 4). Disclosures related to first time application of IFRS 9 (9 items); 5) Accounting policies (26 items); 6) Critical accounting estimates and judgements (35 items); 7) Credit risk management (8 items); 8) Hedge accounting disclosures (4 items).

The checklist was created by us based on the study of the relevant literature, detailed knowledge of the requirements of IFRS 9 and illustrative examples on banks disclosures published by auditors.

The main utility of the checklist is to capture the amount of information and not necessarily the quality of the information in the analysed report (Marston and Shrives, 1991). So we used a robust approach to build the checklist, so as to capture as much of the information presented in the financial statements of banks in relation to first time application of IFRS 9 as possible.

The checklist we created has the following characteristics:

a) *Dichotomous*

A score of 1 is assigned to an item, if it is presented in the audited financial statements of 2018 (even if it is included in another category than the one in the checklist), respectively a score of 0 is assigned differently. The total score (TS) for a bank is calculated as follows:

$$TS = \sum_{i=1}^{m} e_i$$

where:
item e_i is 1, if the element is presented, 0 otherwise; and
m is the maximum number of elements (m = 104).

b) *Unweighted*

The total score is calculated as the total and unweighted sum of the scores of each element. Such an approach assumes that each element is equally important for users of financial statements, this being the option used by most researchers: Cooke (1989), Cooke (1993), Raffournier (1995), Chalmers & Godfrey (2004), Lopes & Rodrigues (2007). Authors such as Firth (1980) and Adhikari & Tondkar (1992) used both weighted and unweighted scores in their research and obtained similar results.

c) Adjusted for non-applicable items

Given that there are significant differences between the complexity of the operations of Romanian banks, in order not to penalize any institution, we used a score that was adjusted if an element was not relevant. In order to do so, we have read in full the audited financial statements for 2018 (following Cooke's (1992, 1993) recommendation that the annual report should be read in full before any decision is taken) and whether an item has not been mentioned and does not appear in the statement of financial position or profit and loss account, then we marked it as being not relevant to the institution. Thus, the maximum score for each institution was calculated according to the following formula:

$$B = \sum_{i=1}^{n} e_i$$

where:
item e_i is the item from the checklist; and
n is the total number of elements relevant to the respective bank, where $n \leq 104$.

Similar to previous studies (Cooke, 1989; Raffournier, 1995; Lopes & Rodrigues, 2007), the total adjusted score (TAS) was calculated according to the formula:

$$TAS = \frac{TS}{B}$$

We used only the information published in the annual audited financial statements, as this is the main tool of corporate communication for institutions (Branco and Rodrigues, 2006). Also, other authors consider the annual report incorporating the financial statements as the most important document used by an entity to build and strengthen its image in front of the public (Gray et al., 1995). The audit report that accompanies the banks' annual report adds credibility, making the annual financial statements a valuable source of information for investors and customers alike.

Independent variables and control variables

Based on the assumptions described above, we have verified the relationship between the level of disclosures in relation to first time application of IFRS 9 by Romanian banks and the following characteristics: size, subsidiary bank status and auditor.

a) Size of the bank

The size of an institution can be measured based on several indicators: total assets, number of employees, number of territorial units (branches and agencies), profits, etc.
We identified a strong correlation between the variables used for measuring the size of a bank (total assets, number of employees and number of branches) (coefficients over 75%) and therefore we decided to use only one of them in our model, respectively total assets.

b) Subsidiary bank status in an international banking group

- Int_bank_group = 1, if the bank is part of an international banking group (i.e. it is consolidated by a mother-bank from another country); and

- Int_bank_group = 0, if the bank is not part of an international banking group (i.e. it is a Romanian bank or it is a bank owned by another international institution, but which is not a banking financial institution).

c) *The auditor*

In order to analyse the relationship between the level of disclosures and the auditor, we defined four variables, as follows:

- PwC = 1, if the bank is audited by PricewaterhouseCoopers, 0 otherwise;
- Deloitte = 1, if the bank is audited by Deloitte, 0 otherwise;
- EY = 1, if the bank is audited by Ernst & Young, 0 otherwise; and
- KPMG = 1, if the bank is audited by KPMG, 0 otherwise.

Although other authors identified a relationship between listing status of the bank and level of disclosures, describing coercive isomorphism, we could not assess this relationship because only 3 Romanian banks are listed on Bucharest Stock Exchange. Furthermore, we have also tested the relationship between other banks characteristics, such as leverage, profitability, depositors' confidence, solvency and the score related to IFRS 9 disclosures and the results (reported only for descriptive purposes, not reported the results of the regressions) showed that these variables do not have an explanatory power for the variation of the score.

Empirical model

We set the critical threshold representing the level of statistical significance at 10%. Where the results were below 10%, we reported them by reference to the lowest level (1% or 5%). According to Nikitina et al. (2019), citing Larson-Hall (2016) there is a compensation relationship between type I and type II errors: an increase in the level of significance from 5 to 10 percent would reduce the possibility of committing the type II error by about 20%.

4. RESULTS AND INTERPRETATION

Descriptive statistics on the variables included in the model

Total Adjusted Score (TAS), which shows the level of disclosures in relation to first time application of IFRS 9, varies between 56.7% and 92.9%, with an average of 74.1% and a standard deviation of 9 percent. Regarding the distribution of the result for TAS, the descriptive analysis, presented in Table 1, reveals that the data are quite symmetrically distributed, an idea also supported by the equality between average and median (74%) and the low value of the skew indicator (0.07).

Regarding the size indicator, we observe more pronounced inequalities, ranging between RON 74 million for the largest bank in Romania and RON 0.5 million the smallest bank in the sample.

All banking institutions in Romania are audited by Big 4 companies, most of which are clients of PwC (7 banks), followed by Deloitte and KPMG (6 banks each) and E&Y (5 banks). However, depending on the percentage of total assets of all banks in the Romanian banking system, PwC audits banks totalling 40%, followed by E&Y with 25% and Deloitte and KPMG with 20% and 15%, respectively. In terms of the distribution of the score depending on the auditor, we observed a higher consistency in terms of disclosure score of PwC audit clients, compared to Deloitte.

When analysing the level of disclosures based on subsidiary bank status, we observed that banks that are controlled by international banking groups have presented more information on the application of IFRS 9 in the financial statements of 2018, compared to local banks or banks owned by entities outside the banking system.

Correlations among variables

To verify the relationships between the variables included in the model and to test the multicollinearity hypothesis, we performed the correlation test using Pearson method for continuous variables and Spearman method for categorical variables. The results of the correlation test, presented in Table 2, indicate that the variable selected for the size of the bank, respectively total assets is strongly correlated both with the profitability indicator (63% correlation – significant at 1%) and with TAS (43% correlation – significant at 5%).

We also noticed a strong correlation between the leverage indicator (which actually shows how much the bank relies on financing from creditors) and depositors' confidence indicator (which measures the level of deposits attracted from customers) – the negative correlation of 83% (significant at 1%) reveals the reality according to which banks that are able to attract large amounts from depositors, need less external financing in the form of loans to support their activity.

The level of disclosures about IFRS 9 (TAS) is correlated with the level of profitability (correlation of 35% – significant at 10%), showing that profitable banks are more interested in building and maintaining their reputation.

Table 1. Sample descriptive statistics for the dependent and independent variables included in the model

Continuous variables

	Unit	**N**	**Min.**	**Median**	**Mean**	**Max.**	**Std. Dev. (S.D.)**	**skew**	**kurtosis**	**S.E.**
Total_assets	thousands RON	24	512,202.0	6,206,091.0	16,569,359.0	74,118,914.0	22,269,634.6	1.4	0.6	4,545,770.1
Employees	Number	24	36.0	911.0	2,036.8	9,014.0	2,635.7	1.4	0.4	538.0
No_of_branches	Number	24	1.0	65.5	175.2	1,024.0	266.2	1.8	2.4	54.3
Solvency_ratio	Ratio – percent	24	0.080	0.192	0.240	0.797	0.180	2.190	4.130	0.040
Leverage_ratio	Ratio – percent	24	-	0.038	0.075	0.570	0.120	2.860	8.600	0.020
Profitability	Ratio – percent	24	-0.008	0.005	0.008	0.029	0.010	0.310	-0.690	-
Depositors_confidence	Ratio – percent	24	0.179	0.768	0.730	0.887	0.160	-1.740	3.500	0.030
TAS	Total adjusted score - percent	24	0.567	0.738	0.741	0.929	0.090	0.070	-0.270	0.020

Categorical variables

Auditor	**N**	**%**	**Listed**	**N**	**%**	**International_bank_group**	**N**	**%**
Deloitte	6	25%	Yes	3	13%	Yes	18	75%
E&Y	5	21%	No	21	88%	No	6	25%
KPMG	6	25%						
PwC	7	29%						

Table 2. Correlation matrix among dependent, independent and control variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Correlation (Pearson) among continuous variables							
(1) Total_assets	1.00						
(2) solvency_indicator	-0.18	1.00					
(3) leverage_ratio	-0.23	-0.01	1.00				
(4) profitability	0.63 ***	-0.29	-0.18	1.00			
(5) depositors_confidence	0.28	0.06	-0.83 ***	0.16	1.00		
(6) total adjusted score (TAs)	0.43 **	-0.25	-	0.35 *	-0.01	1.00	
correlation (Spearman) among continuous and categorical variables							
(7) int_bank_group	-0.15	-0.04	0.47	0	-0.24	0.32	1.00

***, **, * significant at the 1%, 5%, respectively 10% level

Simple linear regressions

To verify the existence of univariate relationships between the variables included in the model, we initially estimated simple regressions between the dependent variable (TAS – the total score showing the level of disclosures related to first time application of IFRS 9 by the Romanian banks) and each of the independent and control variables considered. The results presented in Table 3 show the estimated regression coefficients, as well as the t-statistics.

Table 3. Simple linear regressions between dependent variable (TAS) and the other independent variables included in the model

Hypothesis	Variable	Coefficient	t-statistics	R2	Adj. R2
1	Ln(Total_assets)	0.0362	0.00277 ***	34.0%	31.0%
2	Int_bank_group	0.0441	0.3080	4.7%	0.4%
3	Auditor			0.6%	-14.4%
	Deloitte	-0.0116	0.8300		
	KPMG	0.0053	0.9220		
	EY	-0.0082	0.8850		

***, **, * significant at the 1%, 5%, respectively 10% level

Based on simple regressions, only one hypothesis is validated, namely H1, according to which there is a positive association between the size of a bank and the level of disclosures in relation to first time adoption of IFRS 9 (t-statistic is 0.00277, significant at 1%).

The regressions based on the other independent variables used to test hypotheses H2 and H3, respectively subsidiary bank status in an international banking group and the auditor, did not generate statistically relevant results.

For each regression above, we analysed the heteroskedasticity hypothesis using the Breusch-Pagan test and obtained homoscedasticity in each case, so there was no need to correct the standard errors.

Multiple linear regressions

We defined the following multiple linear regression based on the hypotheses developed considering the legitimacy and agency theories:

$$TAS_i = \alpha_0 + \beta_1 LN(Total\_assets_i) + \beta_2 Deloitte_i + \beta_3 EY_i + \beta_4 KPMG_i + \beta_5 Int\_bank\_group_i + \varepsilon_i$$

where:

TAS = total adjusted score showing the level of disclosures related to first time adoption of IFRS 9 for Romanian banks based on the checklist defined by us;

LN (Total_assets) = natural logarithm applied to total asset indicator[1];

Deloitte = 1, if bank i is audited by Deloitte, 0 otherwise;

EY = 1, if bank i is audited by Ernst & Young, 0 otherwise;

KPMG = 1, if bank i is audited by KPMG, 0 otherwise[2];

[1] We have applied natural logarithm to Total assets variable in order to normalize the data, so to improve the statistical processing of the information. Previous empirical studies have used transformations such as applying the logarithmic function to an independent variable to model nonlinear relationships between the dependent variable and the respective independent variable (Ali et al., 2004; Haniffa & Cooke, 2002; Wallace et al., 1994; Lopes & Rodrigues, 2007).

[2] In order to avoid "dummy variables trap", we introduced only EY, KPMG and Deloitte categories in the model and omitted PwC category, as the latter contains most values, so it will represent the "base case". Dummy variables are those variables that take values 1 or 0 to show the presence or absence of a categorical value, and "dummy

Int_bank_group = 1, if the bank is part of an international banking group (i.e. it is consolidated by a bank from another state), 0 otherwise;
i = 1, 2, …, n;
α, β = constant and parameters estimated by the model; and
ε = error.

The results of the quantitative model showing the relationship between the bank's characteristics and the level of disclosures regarding first time application of IFRS 9 for Romanian banks are presented in Table 4. Two variables are statistically significant: total assets and subsidiary bank status in an international banking group.

Hypothesis H1, which refers to the association between bank's size (expressed using Total assets indicator) and the score showing the level of IFRS 9 disclosures (hypothesis derived from coercive isomorphism), is supported by the results: t-statistics = 3.603, with associated critical p-value of 0.2% (below the critical threshold of 10%). The confirmation of H1 is consistent with the studies of Lopes & Rodrigues (2007) and Chalmers & Godfrey (2004), who also identified a positive association between the size of a company and the level of information presented about financial instruments. Other authors (Glaum & Street, 2003; Street & Bryant, 2000; Street & Gray, 2001; Tower et al., 1999) who verified the relationship between the size of a company and the level of disclosures in accordance with various accounting standards (IAS or US GAAP), did not identify any significant relationship between these variables.

Hypothesis H2, which refers to the positive association between subsidiary bank status in an international banking group and the level of disclosures about first time application of IFRS 9 (hypothesis derived from mimetic isomorphism), is supported by the results: t-statistic = 1.851 with critical p-value of 0.0807 (below the critical threshold of 10%). However, the results of the simple linear regression between TAS (representing the level of IFRS 9 disclosures) and subsidiary bank status (presented in Table 3) do not show a statistical relationship between the two variables, therefore it is possible that the influence of the other explanatory variables included in the model to influence the explanatory power of the model in a negative sense (this can be observed from the rather large difference between the determination coefficient R2 = 45.56% and adjusted R2 = 30.32%).

Hypothesis H3, which refers to the association between bank's auditor and the level of disclosures regarding first time application of IFRS 9 (hypothesis derived from the normative isomorphism), is not supported by the results of our model. However, given the small number of observations for each auditor (between 5 and 7 banks audited by each of the Big 4 audit firms), the results are inconclusive. Other studies (Glaum & Street, 2003; Street & Gray, 2001, Lopes & Rodrigues, 2007) have studied the relationship between auditor type (Big 4 / Big 5 versus non-Big4 / 5) and the level of disclosures in financial statements and they found a positive relationship.

In conclusion, only hypothesis H1 derived from the coercive isomorphism is supported by the results of the statistical test, while the results for the other two are inconclusive, either due to the small number of observations (5–7 observations for each auditor) or the impact of other variables that lead to a decrease in the strength of the statistical model.

variables trap" is a scenario in which independent variables are strongly correlated, i.e. one variable can be determined based on the others.

Table 4. Results of multiple linear regression derived from legitimacy and agency theories

Regression results (Dependent variable = TAS)								
	Coefficient	**Standard error**	**t-statistics**	**p-value associated to t-test**	**Confidence interval (threshold= 5%)**		**Confidence interval (threshold = 10%)**	
					2.5%	**97.5%**	**5%**	**95%**
LN(Total_assets)	0.039	0.011	3.603	0.0020 ***	0.016	0.062	0.021	0.057
Deloitte	-0.017	0.042	-0.411	0.686	-0.105	0.071	-0.086	0.052
KPMG	0.007	0.042	0.156	0.878	-0.081	0.094	-0.062	0.075
EY	-0.028	0.045	-0.616	0.545	-0.123	0.067	-0.102	0.046
Int_bank_group	0.069	0.037	1.851	0.0807 *	-0.009	0.148	0.008	0.131
Constant	0.079	0.179	0.441	0.664	-0.297	0.455	-0.215	0.373
No. of observations	24							
R2	45.46%							
Adjusted R2	30.32%							

***, **, * significant at the 1%, 5%, respectively 10% level

5. CONCLUSIONS

IFRS 9 represented in the period between the Financial Crisis and early 2018, the main accounting concern of the banks. Although international and local regulators, as well as other professionals such as auditors and professional bodies, insisted on the huge preparatory effort needed in order to adequately report the first set of financial statements in which financial instruments are classified and measured in accordance with IFRS 9, not all banks have given equal importance to this process. As such, our content analysis research conducted on Romanian banks, showed divergent results in relation to the information presented by banks in 2018 financial statements.

Our analysis concluded that the level of disclosure regarding first time application of IFRS 9 is related to the size of the bank (expressed through the total assets) and membership in an international banking group (only when we used an assumed risk level of 10%), which is consistent with two concepts of legitimacy theory, i.e. coercive and mimetic isomorphisms. These results, however, should be interpreted with caution, given the main limitation of our analysis, which is related to validation of the results in case of small sample size. Although our sample size is scientifically relevant, it may not be statistically significant, as such future research which will extend the sample size will bring more relevant information to this study.

Another limitation results from disclosure index construction process. We paid a lot of attention to the process of reviewing the financial statements in order to determine the score representing the level of IFRS 9 disclosures, but errors may have occurred. Lastly, this study covers the annual reports for a single year, the year of first time application of IFRS 9, namely 2018. Additional research including other years, will allow interesting analyses of evolution of disclosure practices in relation to IFRS 9 compliance and new improvements to the methods of measuring financial instruments.

Furthermore, it is important to consider that this was the first set of financial statements in which financial instruments were classified and measured in accordance with IFRS 9, which means that this exercise is still perfectible and we expect that Romanian banks would improve further their disclosures while becoming more familiar with the requirements of this new standard.

Finally, we consider that this research brings interesting insights on the approach of Romanian banks in relation to first time application of such an important standard as IFRS 9.

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ANNEX 1

Statement of profit or loss and Other Comprehensive Income / P&L	Net gain/(loss) from other financial instruments at FVTPL	
	Net gain/(loss) from de-recognition of financial assets measured at amortised cost	
	Net gain/(loss) from de-recognition of financial assets measured at FVTOCI	
	Credit impairment losses	
	Items that will NOT be reclassified subsequently to profit or loss	Movement in investment revaluation reserve for equity instruments at FVTOCI
		Movement in the fair value of own credit risk of financial liabilities designated at FVTPL
	Items that may be reclassified subsequently to profit or loss	Movement in investment revaluation reserve for debt instruments at FVTOCI
		Cash flow hedges
		Cost of hedging for forward element of a forward and currency basis spread when excluded from designation in a hedge relationship
Statement of financial position / Balance sheet	Financial assets at FVPL	Carrying amount
		Separate presentation for those mandatorily classified and those designated upon initial recognition
	Financial assets measured at FVOCI	Carrying amount
		Separate presentation for debt instruments and equity instruments
	Financial assets at amortised cost	Carrying amount - separately for all significant classes
	Derivative financial assets	Carrying amount
		Separate presentation for trading and hedging instruments
	Financial liabilities at amortised cost	Carrying amount
	Financial liabilities at FVPL	Carrying amount
		Separate presentation for those that meet the definition of held for trading and those designated upon initial recognition
	Derivative financial liabilities	Carrying amount
		Separate presentation for trading and hedging instruments
Statement of changes in equity	Impact of the adoption of IFRS 9 due to re-measurement for expected credit losses and other effects – separate impact on	

	retained earnings and other reserves	
Disclosures relating to initial application of IFRS 9	Decision regarding restatement of comparative periods or not	
	Decision regarding application of hedge accounting according to IAS 39 or change to IFRS 9	
	Changes in accounting policies	Classification and measurement of financial instruments - changes in measurement categories
		Change from IAS 39 incurred loss model to IFRS 9 expected loss model
	Transition	IAS 39 to IFRS 9 carrying values- split between reclassification and re-measurement
		Details regarding changes in measurement categories: reasons for designation or de-designation decisions, reclassification from retired categories with no change in measurement, reclassification to amortised cost or reclassifications out of FVTPL to FVOCI etc.
		Reconciliation of impairment allowance balance from IAS 39 (balance at 31.12.2017) to IFRS 9 (balance at 01.01.2018) - split between reclassification and re-measurement
		Table presenting the impact of IFRS 9 transition on deferred tax
		Information regarding the impact of IFRS 9 transition in own funds - transitional arrangements
Accounting policies	Financial assets – measurement methods	Initial recognition and initial measurement
		Amortised cost and effective interest rate
		Interest income
		Fair value
	Financial assets – Classification & Measurement in accordance with IFRS 9 – business model	Analysis of the types of business model identified by the Bank
		Separate presentation of the assessment for loans and advances to customers vs. other financial assets
		Presentation of the judgmental areas (e.g.: frequent sales due to regulatory purposes, what is the sales target after which sales are considered significant, managing the portfolio on a fair value basis or other performance indicators etc.)
	Financial assets - Classification & Measurement in accordance with IFRS 9 – SPPI test	Analysis of contractual cash flow characteristics (SPPI test)

		Presentation of the assessment for judgmental areas considered (e.g. Leveraged payments, Payments linked with the variability in exchange rates, Conversion to equity terms, Interest rates indexed to non-interest variables, Prepayment or extension options etc.)
		Presentation of the assessment regarding benchmarking test (or situation in which time-value-of-money component of interest is modified)
	Financial assets – Classification & Measurement in accordance with IFRS 9	Description of measurement categories for financial starting with 1 Jan 2018 and rules for classifying in these measurement categories based on business model and SPPI test
		Description of fair value option for financial assets
		Classification and measurement of equity instruments in accordance with IFRS 9
	Financial assets - subsequent measurement	Impairment according to IFRS 9
	Financial assets – derecognition	Modification of loans
		Derecognition other than on a modification
		Transfers of financial assets – separately those financial assets that are not derecognised in their entirety and those financial assets that are derecognised in their entirety for which the Bank has continuing involvement
		Write-off policy
	Financial liabilities	Classification and subsequent measurement
		Derecognition
	Reclassifications	
	Offsetting financial assets and financial liabilities	
	Financial guarantee contracts and loan commitments	
	Presentation of ECL in financial statements – presentation of loss allowance for financial assets at amortised cost vs. financial assets classified at FVOCI vs. allowance for financial guarantees and loan commitments	
	Derivatives and hedging activities	
	Accounting policies for previous periods (according to IAS 39) – if the Bank did not restate previous periods	
Critical accounting estimates and judgements:	Significant increase in credit risk (SICR)	Quantitative criteria
		Qualitative criteria
		Backstop

		Transfers back from stage 3 to stage 1 or 2 or from stage 2 to stage 1
		Low credit risk condition
		POCI loans
		IAS 1 critical estimates disclosure: impact on ECL allowance of changing thresholds (PD or others) for SICR
	Definition of default and credit-impaired assets/non-performing exposures	Quantitative criteria
		Qualitative criteria
		Cured instruments
	Staging	Definition of staging
		12 months vs. lifetime computation of ECL based on staging
	Measuring ECL – explanation of inputs, assumptions and estimations techniques	PD
		EAD
		LGD
		Lifetime/multi-year computation of parameters
		ECL for stage 3 and POCI loans
		ECL for financial guarantees and commitments
		ECL for financial assets measured at FVOCI – other than equity instruments designated as such
		Simplified approach for measuring expected credit loss – for other financial assets
		Treatment of bullet loans
		Treatment of prepayment features
		Treatment of revolving credit facilities / use of credit conversion factor (CCF) for converting undrawn credit limits
		Discount factor
		IAS 1 critical estimates disclosure: impact on ECL allowance to changes in risk parameters (PD, LGD) (sensitivity analysis)
		Use of multiple scenarios when estimating ECL with different PDs, EADs, LGDs
	Forward-looking information incorporated in the ECL models	Economic scenarios considered (base, adverse/downsize, optimistic/upsize) – number
		Economic scenarios considered (base, adverse/downsize, optimistic/upsize) – description of assumptions / macroeconomic variables considered
		Weighting of economic scenarios
		FLI is included in ECL computation and also in SICR assessment
		Sensitivity analysis – changes in assumptions regarding FLI affecting the ECL allowance
	Grouping of instruments for losses measured on collective/individual basis	Relevant grouping for collective assessment

		Criteria for exposure individually assessed
		Computation of ECL for individually assessed clients (collaterals / cash flows) – methodology / assumptions
		Computation of ECL for individually assessed clients (collaterals / cash flows) – use of multiple scenarios
Credit risk management	Concentration of credit risk	Loans and advances (incl. loan commitments and guarantees) – relevant split based on risk management policy (scoring/grading/rating or product/economic sectors etc.)
	Maximum exposure to credit risk – financial instruments subject to impairment	Gross carrying amount, loss allowance and net carrying amount for financial assets – relevant split based on credit grade and/or ECL staging
	Maximum exposure to credit risk – financial instruments not subject to impairment (e.g. FVPL financial instruments)	
	Collateral and other credit enhancements	Terms and conditions
		Quantitative information about collateral held as security and other credit enhancements for credit-impaired financial assets (for e.g.: a table showing carrying amount for credit-impaired assets vs. fair value of related collateral and/or LTV distribution for mortgage portfolio etc.)
	Loss allowance	Changes in loss allowance between the beginning and ending of annual period – ECL reconciliation table
		Changes in loss allowance between the beginning and ending of annual period – explanation for significant changes (e.g. reconciliation of gross carrying amount or other information)
	Modification of financial assets (restructuring activities, distressed loans etc.) – description of activities and financial data for each type	
Hedge accounting disclosures - by risk categories	Hedging policy	
	Nature of risk being hedge: fair value hedge, cash flow hedge, net investment hedge	
	Financial instruments designated as hedging instruments	
	Information regarding the effectiveness of the hedging relationships designated and impacts in P&L and OCI	

Legal Aspects

REVISITING THE SAFETY OF INSTITUTIONS IN CEECS: A QUALITATIVE STUDY ON THE CZECH REPUBLIC

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Abstract
This paper revisits the importance of Host Institutions as a factor relevant to the activities of Foreign Investors in Central and Eastern European Countries (CEECs) with a particular focus on the Czech Republic, with primary data obtained from interviews. This topic has been the object of a wide span of research since the beginning of the century. Host Institutions in Western countries have traditionally been portrayed as efficient and as positively contributing into building the attractiveness of Western countries for Multi National Companies considering FDI. On the contrary, Host Institutions in CEECS have, in general, traditionally been represented as inefficient and as a factor working as a FDI-deterrent. In the course of time, the debate has been taken at a deeper level. It has resulted that at least some CEECs should already be considered as institutionally safe. This paper studies the evolution of the debate and presents some primary data from interviews conducted in the Czech Republic. The results tend to confirm that the Czech institutional environment is safe.

Keyword: *institutions, CEECs, FDI, foreign investors*

1. INTRODUCTION

We are continuing with the study of the importance of Institutions as factors relevant to the activities of Multi National Companies (MNCs) considering/engaged in Foreign Direct Investment (FDI). Institutions are written rules (formal Institutions) and unwritten codes of conducts (informal Institutions) governing human behavior (North, 1990, 2003). Institutions are relevant to economic activities because they can contribute to curb (when efficient) or lead to an increase (when Institutions are inefficient) of Transaction Costs. Transaction Costs are the costs of finding/interpreting information and enforcing Contracts (Coase, 1937, 1960). It has been proposed for a long time, that the institutional environment in Central and Eastern European Countries (CEECs) after the revolutions of 1989 has been inefficient. For some time, scholars have grouped the bulk of CEECs together in order to test empirically the impact of Institutions in CEECs on FDI (Mudanbi and Navarra, 2002; Sethi et.al., 2002; Bitzenis, 2003; Bevan et.al., 2004; Meyer and Nguyen, 2005; Meyer and Peng, 2006; Dunning and Lundan, 2008a; Dunning and Lundan, 2008b; Peng et.al., 2008; Bowen and De Clercq, 2008; Trevino et.al., 2008; Henisz and Swaminathan,2008; Cantwell et.al., 2009; Guler and Guillen, 2009;Chacar et.al., 2010; Slangen and Beugelsdijk, 2010). The result has been that factors like an imperfect Rule of Law, imperfect protection of Property Rights, rife and often not predictable Corruption are able to deter FDI and prevent Multi-National Companies entry in certain CEECs markets.

This paper follows the field of research on the consequence of Institutional development for the Foreign Investors' activities. We will develop a theoretical framework which takes into account the evolution of the last years of research and we will collect primary data from some interviews conducted in the Czech Republic. The aim of this paper is to contribute to renew the debate on the importance of Institutions for the decisions and operations of Multi National Companies operating in specific CEECs.

The first section of this paper will review the literature, the second section will discuss the methodology of the empirical part, whereas the third part will discuss the empirical evidence collected. Conclusion and references will follow.

2. THEORETICAL BACKGROUND

The first seminal literature on FDI drivers had always recognized the importance of factors which are nowadays classified as "Institutions" or "institutional parameters" on FDI, even without using the modern terminology. The contributions of Hymer (1960), Aharoni (1966), Buckley and Casson (1976), the original OLI' Framework (Dunning, 1980); Johanson and Vahlne (1977) had certainly mentioned host legal and socio-cultural environments as factors relevant to the attractiveness of a given market in terms of capacity to receive and retain FDI. Nonetheless, the original literature on FDI has normally considered these factors as having a secondary role, even a marginal one, in comparison with economic factors like the labour costs , tax rates, macroeconomic parameters and currency exchange rates.

The attention of scholars towards the relevance of the host institutional environment grew up during the turn of the century. Several scholars have been inspired by the topic and a number of contributions have addressed the debate (Stein and Daude, 2001;Globerman and Shapiro, 2002; Bevan et.al., 2004; Grosse and Trevino, 2005; Ali et al, 2010; Asamoah et.al., 2016; Peres et.al., 2018; Sabir et al., 2019). The area of Central and Eastern European countries has often been selected as a suitable location to test the impact of Institutions on FDI. These countries , at that time, were presenting a set of internal characteristics which rendered them quite attractive at the eyes of scholars researching on the area. First of all, CEECs had just opened (or, better said, further opened) their market to Multi-National Companies and could offer a set of interesting economic conditions to Foreign Investors: a cheap and educated workforce, growing markets, a growing process of liberalization, tax incentives and an existing, despite outdated, infrastructural setting. On the other side, CEECs were plagued by an institutional environment where those Institutions suitable to curb Transaction Costs were absent or under-developed: the enforcement of Property Right was questionable, the Rule of Law weak. Indeed, the public administration was quite inefficient and corrupted, bureaucracy was pervasive and stiffening, with a consequent high level of Transaction Costs and economic Risk or Uncertainty. These inefficiencies, following empirical studies, were represented as burdens for MNCs interested in FDI. The conclusion has been that CEECs were losing in terms of FDI inflows and stocks because of the unfavourable institutional environment. Former Soviet Republic (with the exception of Baltic states) and Balkanic countries were considered to be quite unsafe, whereas the situation in Baltic Countries and the very Central CEECs (i.e. the Czech Republic) was assessed as relatively less problematic but still far from being safe.

A typical representation of the relationship local administration/ MNCs was that local administrators are able to impose their own arbitrary decisions to MNCs which are unfamiliar with local laws and practices because of the "liability of the foreigner" (Zaheer, 1993). MNCs, according to this particular principle, would be basically harmless when confronted with capricious and abusive behaviours of host countries' governmental representatives in under-developed institutional settings like the CEECs'ones. This view, where MNCs would be victims of dishonest foreign public officials, is not really uniformly held, as the effectiveness of the MNC' capacity to lobby and , in turn, direct or influence the behavior of governmental representatives had also been acknowledged since a number of years (Vernon, 1971).

Nonetheless, CEECs have evolved since the time when those first studied on their Institutions have been conducted. The transition from a State-economy into a Market economy has been completed, democracy is rooted in most of CEECs and the entry of the majority of CEECs into the EU in the years between 2004 and 2013 can be considered as a symbol of modernisation. Nowadays some CEECs are even members of the OECD and are considered as developed economies. In addition, these countries have been part of a globalized and integrated economy for quite a lot of years now. This fact has likely represented a push factor into updating their institutional settings in order to be able to meet the requirements of safety and certainty typically expected by agents operating in inter-personal transactions. The integration into a European and a worldwide economy has certainly put pressure on CEECs' Governants and Society in order Institutions become more efficient and better able to curb Transaction Costs, which had previously been considered as excessive by various Western MNCs. Surely, the needs and the advantages of participating to the Globalisation of Trade and FDI has been a motivating factor in this respect. FDI of MNCs has brought/ bring financial capital, organizational and marketing knowledge to countries which were desperately needing these particular resources. On the other side, the work of the scholars associated with the New Institutional Economics (North, 1990, 2003) has highlighted how Institutions hardly change, especially the informal ones. Formal Institutions can be changed overnight if there is a political will. Nonetheless, Informal Institutions tend to manifest a higher degree of path-dependence because they are rooted in the cultural and historical environment of any Society. This is why, in spite of changes in the formal legal rules, specific aspects of Corruption, a weak Rule of Law and enforcement of Property Rights do not easily change. The evolution of the institutional environment in CEECs represents an interesting field for studying how and to what extent the pressure put by the need to embrace a market-economy and join a globalized economic environment has reshaped local Institutions.

In addition, there is also another aspect worthy of mentioning. MNCs may also reasonably adapt themselves to the constraints that unsafe host Institutions pose to them. Whereas MNCs may initially have been unprepared to face the burdens and hurdles represented by still underdeveloped CEECs' Institutions during the transition process, in the course of time MNCs have probably learnt how to survive a hostile and unpredictable environment, even more in view of the fact that this environment was also going through a process of change in order to comply with the needs of a market economy. MNCs are also not harmless entity versus a, supposedly, more powerful Host Public Administration. MNCs can also be giant conglomerates endowed with all the means to resist pressure from an inimical or hostile Public Administration and/or may themselves influence or, in the most extreme cases, co-determine the choices of Policy Makers (State Capture). Even Small and Medium Sized MNCs, when not themselves ready to represent their own interest directly, may become part/form Associations of Foreign Investors, Chambers of Commerce or rely on the help of their Embassies, when these latter are representing powerful countries and/or countries with a good connection with the one hosting the activities of the MNCs.

Further investigations on the reaction of MNCs to the local institutional environment in some CEECs appear therefore worthy. Additional investigation on the topic appears therefore of academic interest because, in view of what has been written above, the situation may be different from the trend emerged and studied during the last decade or the last two decades. The evolution of the recent decade has confirmed a trend already emerged during the first decades following the disintegration of the Socialist block, namely strong inter-CEECs differences in terms of local institutional (under)development. Whereas the Central European countries and the Baltic states seem to be relatively safer, the Balcanic countries are less so and the former Soviet Republics (not including the Baltic States) are the laggards in terms of institutional efficiency. These differential trends can be easily explained in terms of a different historical and economic path before Socialism and also in terms of a different path taken after the shift towards a Market Economy. It is considered here that studying CEECs as if they were part of a homogeneous group, as done during the first wave of studies on the impact of Institutions in CEECs on FDI, would be misleading because the components of the group are extremely dishomogeneous. Studies should focus on individual countries or in sub-group of CEECs whose members are more similar to one another (i.e. Visegrad countries, Baltic States). This study follows the first suggested trend and concentrates on a single country, the Czech Republic.

The Czech Republic, which has been part of Czechoslovakia, has been among the economically and institutionally most developed CEECs, also because of a pre-Socialist industrial tradition. However, the country has still also been considered for some time as institutionally problematic by some authors in terms of rife Corruption, contradictory bureaucratic and legal rules and not ideal Rule of Law (Euro-Czech Forum, 2003; Gerls, 2006). Indeed, more recent studies (Podda, 2015; Skellington, 2016) suggest that the Czech institutional environment does not create major hurdles to foreign investors. These last studies would indicate the Institutions in the Czech Republic are basically safe, thus contradicting the evidence from the first generation of studies in the area.

This paper investigates whether the local environment still pose significant hurdles to foreign investors who have operated in these most recent years. As said, the institutional environment, especially in one of the most advanced CEECs, has likely improved in the course of time in view of the need to adapt to the needs of a Market Economy integrated within a global environment and also in view to comply with the standards set by the European Union. On the other side, foreign investors might also have managed to adapt themselves to a local environment eventually less developed, or different, from the one they are originally from.

3. METHODOLOGY

This paper makes use of semi-structured interviews as a form of investigation. The use of this method is less common than the analysis of numerical data in International Business research and the collected evidence cannot be used to generalize results (Denzin and Lincoln, 2000; De Vaus, 2002; Remenyi et.al., 2015; Bryman, 2016). Nonetheless, this method allows to reconstruct stories and understand the point of view of the actors involved in the process. It is used as a complement to existing statistical evidence and provides also directions for the interpretation of results of quantitative studies, thus also contributing to a deeper understanding of the topic under investigation.

The number of interviewees has been kept low, four specifically, because the interest was on the reconstruction of the stories of Respondents exactly in view of gaining a deeper insight into the experiences of actors, which is useful to understand the mechanisms governing the relevance of the institutional environment to the activities of foreign investors. The low number of interviewees is not considered as a limitation, because the purpose of the use of this method is not to generalize results, but to explore experiences in detail. Interviewees have been asked about some general information on their business, the opportunities and obstacles represented by the Czech market. At a second stage, the questions have focused on the experiences with the institutional environment and the perceived obstacles or opportunities that this may represent. Respondents have been allowed to speak freely, the interviewer has intervened when useful, especially in order to clarify details or acquire additional information. Some questions have been put in general terms, as suggested and practiced by the World Bank and the European Bank of Reconstruction and Development at the time of their Business Environment and Enterprise Performance Survey (BEEPS, 1999, 2005, 2007). The questions have focused on the idea of the Respondents regarding, for example, the experiences with the Public Administration that the average small foreign investors may have. This in order to avoid embarrassing the Respondent, which may feel compelled to falsely reply that, for example, they have never engaged in any sort of illegal or unethical business practice like for example paying bribes or proposing favours in exchange for favours. The principle underpinning this particular type of interviewing technique is the idea that, when pretending to talk about the experience of other companies, the Respondents are in reality talking about their own experience. This trick would supposedly encourage Respondents to report their true experience, while pretending they are only giving an opinion about the likely behavior of other business operators.

Indeed, a real limitation of the study is that it turned up that the respondents were all original from the same country, namely Italy. Investors from the same country have been exposed to the same home Culture and Institutions. Hence, they might reasonably tend to reconstruct their experiences and react to the host environment in a particular way, whereas investors from other countries may behave, react to host Institutions differently. Nonetheless, in spite of this evident limitation, it is still expected that the collected material will offer an insight into the experiences of at least one type of Western investors in the Czech Republic.

The Respondents are investors who have opened small business activities. Two of them are active in the HORECA sector, one has opened a factory and the fourth one operates in the retail sector through various shops. This way, the results open a window into the experiences and reactions of small (Italian) foreign investors in the Czech market. Foreign investors investing (relatively) small amount of capital may react differently to the hurdles and opportunities of the host environment. They are, in principle, less equipped to hold any real bargaining power with the public authorities or to capture the State, even if they can sometimes rely on the assistance offered by Associations of Foreign Investors or Chambers of Commerce. Hence, these interviews are expected to offer an insight which is peculiar to the experiences of those that are supposedly the most vulnerable types of foreign investors.

A further methodological note is related to the need to comply with the respect of ethical research standards. The identity of the Respondents cannot be revealed, nor they can be made identifiable. This general rule is of an even higher level of importance in view of the sensitive nature of the collected information. Moreover, Respondents have been made aware of the purpose of the research.

4. DISCUSSION OF RESULTS

The four conducted interviews suggest not only that the institutional climate in the Czech Republic is nowadays efficient and suitable to the needs of Foreign Investors, but also that it has never represented a hurdle not even in the past (15-20 years). This conclusion sounds at odds with some previous studies on Institutions in CEECs, nonetheless is consistent with the results of other studies conducted on the Czech Republic specifically (Podda and Tsagdis, 2006, 2007; Podda, 2010). It emerges that the country is safe and the local laws and practices of the Public Administration do not create constraints to economic operators like Foreign Investors. Hence, according to the Respondents, the country has always been among the institutionally safe ones and does not belong to an institutionally group of countries like other CEECs (ex. Former Soviet Republics) are or may have been.

The respondents overall declare that the law relevant to their activities is generally quite clear, thus providing a different insight in comparison with other analysis run in the past. In addition, in those cases when the law is not clear and open to different interpretations, the local authorities are reasonably helpful and ready to provide assistance in order the economic agent to be able to operate safely. Inspections from public authorities happen also very differently from what has traditionally been portrayed as being a standard practice in CEECs. According to the results, Czech authorities do not conduct picky search of infractions in order to extract bribes in exchange for closing their eyes when there are violations of laws. Indeed, the public officials involved in the inspections and release of authorizations are quite cooperative, often highlighting the existence of a minor infraction and offering a reasonable amount of time in order the business operator can remedy to it without having to pay any penalty. The interaction with public officials is characterized by mutual respect and cooperation. This seems to contrast sharply with anedoctal stories of abuses from the side of the Public Administration. According to the Respondents, public officials understand the importance and the benefits of business activities and behave consequently.

Respondents have repeatedly being asked about the practices related to Corruption and Bribes. Given their small size, Respondents are not expected to engage in State Capture, but may recur to bribes, either from their own initiative or because forced to. Indeed, the evidence collected suggest that public officials neither request nor accept bribes. Any eventual offer from the side of the foreign business operator could actually been reported to the Police authorities and being a reason for prosecution. One of the Respondents, who owns and manages a restaurant, has declared that the authority representatives, when on duty, are used to refuse even the offer to have a small drink. Eventually, they may accept a symbolic offer (like, for example, a drink) only once their task has been terminated and the eventual fine (which is rarely imposed unless there are serious reasons or repeated violations) has already been levied.

Overall, the results of the interviews suggest that the Czech Republic is an institutionally safe country for those foreign investors surveyed. It might also be that the Italian origin of the Respondents has influenced their perceptions. This may be because bureaucracy is quite pervasive in Italy and business operators have to go through red tapes and bureaucratic complications already in their home country. Hence, Italian investors , who are already used to a problematic home institutional environment, would not be particularly bothered by the Czech one. Investors from other countries may develop a different perception of Czech Institutions.

5. CONCLUSION

On the basis of the results of the study, there is evidence suggesting that the institutional environment of the Czech Republic is safe and that it has been so also in the last decade. This result sheds a new light into CEECs, traditionally represented, to various degrees, as institutionally weak and unable to offer a safe institutional environment to Foreign Investors. Indeed, the Czech institutional environment would seem to be quite developed.

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A BILL OF EXCHANGE AS A POWERFUL BUT ALSO A TRICKY TOOL

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Abstract
The purpose of this paper is to analyze different cases of misuse of a bill of exchange in business operations and to highlight legal views and solutions of selected crime issues using the precedences from Czech courts jurisdiction. The author focuses on the areas of using counterfeit bills to commit credit frauds, abuse of non-existing debts declared by spurious promissory notes, misleading bills of exchange, unauthorized use of stolen promissory notes, drafts signed by physical vs. juridical persons, regression claims of a security promissory notes, transfer of the non-endorsable bill of exchange to a third party by assignment of debt (cession), and the out-of-court settlement agreements. In the end, some preventative measures are recommended. This work is the result of the Metropolitan University Prague research project no. 74-02 "Territorial Studies, Economics, International Relations" (2019) based on a grant from the Institutional Fund for the Long-term Strategic Development of Research Organizations.

Keywords: *bill of exchange, counterfeiting, crime, Czech legislation, UNCITRAL*

JEL Classification: O16, K14, M40

1. INTRODUCTION

A bill of exchange is **an unconditional order to pay a debt** (Kovařík, 2011). It doesn't matter how the debt originated, where and by whom it was caused, whether it is a loan or a payment to buy something or we simply transfer money from account to account (Sato, Halík, Hinčica, 2017). If the statutory factual requirements of this security are met, then it must be paid, because otherwise, **the execution** of the debtor's property may immediately follow (Kotásek, 2002).

A bill of exchange is not an obligation that is conditional on the fulfillment of certain obligations. It is not governed by the law of obligations (such as a purchase contract or a tort/delict), nor is it subject to a right in rem (e.g. ownership, possession, or pledge of a certain thing). A special Bill of Exchange and Check Act **No. 191/1950 Coll.** in the current wording of January 1, 2014 (Version 4) regulates it. It is based on the 1930 Convention on International Bills of Exchange and Checks, drawn up by the United Nations Commission on International Trade Law and known as the Geneva Agreement (UNCITRAL, 1988).

It would seem that if all legally required components are contained in the bill of exchange, the paper is valid and the debt is easily enforceable. However, the reality is somewhat different. In today's globalized world, companies often create supply-distributor chains, chain "foreign parent—local subsidiary" (Jindrichovska, Ugurlu, Thalassinos, 2020) or spin-offs (Bialek-Jaworska, Gabryelczyk, 2016) on the transnational level which increases the demands on the **correct choice of payment instruments** (Smutka, Svatoš, Tomšík, Sergienko, 2016). As a customer fraud has great economic relevance (Garnefeld, Eggert, Husemann-Kopetzky, Boehm, 2019), often, a seemingly simple bill of exchange transaction turns into a complicated lawsuit.

A bill of exchange is **abstract security**, which means that **there may be no reason to issue it**. Many crimes are based on two simple considerations: 1) "Have him sign the bill and think he can get it back when he fulfills something.", and 2) "Let's make a fake, transfer it to someone who collects the money, and then withdraw a share from him." (Source: Own quotation). These methods are often based on the principles of Interpersonal-Deception Theories (Maimon, Santos, Park, 2019).

Thus, **the legal proceedings do not focus on whether the bill of exchange has all the requisites, but on whether it is not misused for some unfair intentions, or whether the person concerned was not forced to issue it or was not a subject of deception**. It needs to be assessed in terms of the moral cost of cheating and differences in the perceived trust and beliefs in the gains and the losses obtained (Charness, Blanco-Jimenez, Ezquerra, Rodriguez-Lara, 2019).

The due and unpaid bill of exchange is easily sued, the origin of the obligation does not have to be proved, in most cases, it is enough to deliver only the original bill of exchange to the court. The court will then issue a **payment order**. The debtor may file a counter-objection within 15 days, the court will cancel the bill of exchange payment order based on them and the case will then discuss the matter within the scope of the objections raised. A legal action for the payment of a bill of exchange is usually very brief and relatively simple.

However, **litigation questioning the conditions of its origin** is far more complicated. It is mostly a broad interpretation of opinions and the presentation of evidence. It depends very much on the exact wording of the submission, where even one unnecessary additional sentence (or, conversely, missing information) or an act in the proceedings (or a substantive legal act) can mean the loss of the dispute. The debtor can also win the whole dispute, preferably if he manages to convict the creditor of committing a crime. The same is true the other way around.

The document "Analysis of Trends in Criminality in the Czech Republic in 2018", states that the bill of exchange misuse belongs **among the most widespread forms of crime in the Czech Republic**, ranking just behind the money laundering, corruption, and tax, credit and insurance fraud (Diblíková, 2019). **The Police of the Czech Republic** regularly monitors and publishes the criminal cases in the area of credit fraud and bills of exchange misuse. The International Police Cooperation Directorate, as a part of the Police Presidium of the Czech Republic, closely cooperates with their foreign partners in preventing, detecting, and investigating crime or searching for persons and things (www.policie.cz). It uses the products and services of the European Union Agency for Law Enforcement Cooperation – Europol, and International Criminal Police Organization – Interpol.

This article brings a closer look at some specific situations that lead to criminal activities in connection with a bill of exchange, and the legal solutions and prevention measures.

2. LITERATURE REVIEW AND RESEARCH METHODOLOGY

Many authors have recently dealt with issues of bills of exchange in business operations. Very valuable sources about practices balancing on the edge of the law were found in the databases of the judiciary, containing full descriptions of court proceedings and the final verdicts. The theory of this financial instrument is widely covered by domestic as well as international books, articles, and commentaries.

The question of legal regulatory frameworks for bills of exchange is still widely discussed (Eliáš, 1999). The European Commission has presented a legislative package Unfair Commercial Practices Directive ("UCPD") through the Directive 2005/29/EC concerning unfair business-to-consumer commercial practices in the internal market (MacGregor Pelikánová, 2019). As a rule, the provisions of the Czech Commercial Code apply in cases where there is a commercial negotiation between the parties. On the contrary, in civil law based negotiations, the Civil Code is applied. Wherever there is a question addressed in both the Civil Code and the Commercial Code, it will be necessary to proceed from the legislation civil law. However, sometimes they might have both civil and commercial law nature (Kovařík, 2001). The issuer is a participant without whom a promissory note relationship cannot be established (Merčanová, 1996).

If a bill of exchange is issued, transferred or pledged to secure a receivable, the debt arising from a causal obligation has priority in performance, which means that a receivable from a security bill of exchange can be properly asserted only after the secured receivable has not been properly and timely satisfied (Chalupa, 2009). Looking at the regulation of the bill of exchange law abroad, we can observe, despite the great diversity, two basic areas of legislation, namely the Anglo-Saxon and Geneva areas. The Anglo-Saxon region includes, for example, the countries of Great Britain, the United States of America, or Australia. This area is based more on sources of customary law and does not place strict emphasis on the form of the written document. The states representing the Geneva region are predominantly the states of continental Europe. On the contrary, the Geneva Conventions are characterized by strictness in terms of form (Svobodová, 1992).

For example, according to Geneva Conventions, a blank bill of exchange can be defined as a document that is designated as a bill of exchange and is intentionally issued by the signer in an unfinished state, with the acquirer being established by agreement a so-called bill of exchange filling right to complete missing details (Kotásek, Pihera, Pokorná, Raban, Vítek, 2009). The law requires the bill to be included an indication that it is a bill of exchange, included in the actual text of the document. This is not that strict in the Anglo-Saxon areas (Chalupa, 2006).

The obligation to pay with bills of exchange is as important as the obligation under any other contract (Černá, Štenglová, Pelikánová, Dědič, 2016). Nevertheless, bills of exchange fall into the area of substantive law (Fiala, Hurdík, Ronovská, Korecká, 2002). The use of the bill of exchange in international trade accelerates exports and imports of goods (Sato, Halík, Hinčica, 2017). Their use is also indirectly affected by the level of the country's exchange rate and interest rates (Maitah, Kuzmenko, Smutka, 2016). Unfortunately, they are also a source of cheating, incentives, and money manipulation (Charness, Blanco-Jimenez, Ezquerra, Rodriguez-Lara, 2019).

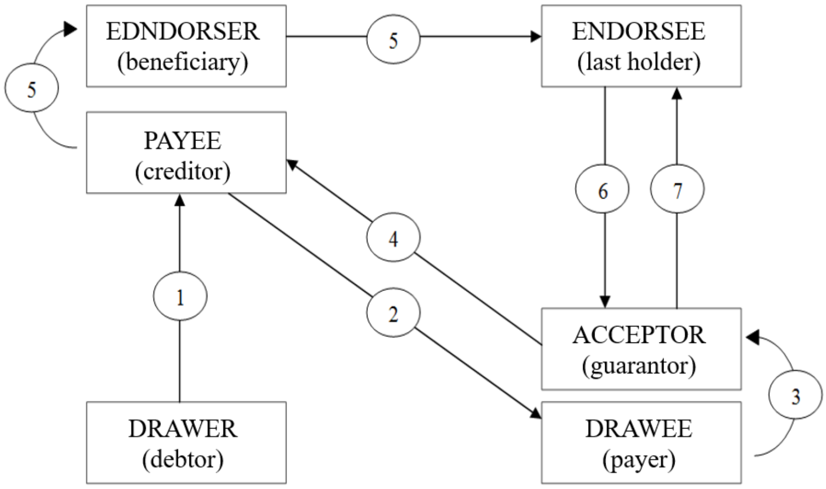
The links between payment schemes and customer fraud are very tight (Garnefeld, Eggert, Husemann-Kopetzky, Boehm, 2019). The Interpersonal-Deception Theory helps to discover different types of fraud (Maimon, Santos, Park, 2019).

A search of the available literature, interpretation of the judiciary of the Czech court system, and the examples based on precedents of judicial decisions in the Czech Republic about the unauthorized use of bills of exchange in business operations have become the main research methodology of this paper. The names of the litigation parties have been changed due to General Data Protection Regulation. The results can be used as a guideline and advice to private and public entities dealing with bills of exchange in their daily practice.

3. ANALYSIS AND DISCUSSION

According to Czech Bill of Exchange and Check Law, Article I, § 1, and § 75, a bill of exchange must contain: 1) an indication that it is a bill of exchange, conceived in the actual text of the document and expressed in the language in which this document is written, 2) an unconditional order, resp. a promise to pay a certain amount of money, 3) the name of the person to pay – the bill of exchange (only for a foreign bill of exchange), 4) the due date, 5) the place where it is to be paid, 6) the name of the person or whose paid, 7) date and place of issue of the bill of exchange and 8) signature of the issuer. Figure 1 shows the scheme of the bill of exchange.

Figure 1. The scheme of the bill of exchange



Source: Own elaboration

Legend:
1. Issuance of a bill of Exchange by the drawer and its handover to the payee.
2. Submission of the bill of exchange to the drawee for acceptance.
3. Acceptance of a bill of exchange by an acceptor.
4. Return of the accepted bill of exchange to the creditor.
5. Transfer of bill of exchange rights to the next beneficiary.
6. Submission of a bill of exchange for redemption.
7. Paying the bill of exchange amount.

A bill of exchange in which the time of payment is not specified is deemed to be payable at sight. In default of special mention, the place specified beside the name of the drawee is deemed to be a place of payment, and at the same time the place of the domicile of the drawee. A bill of exchange that does not mention the place of its issue is deemed to have been drawn in the place mentioned besides the name of the drawer (Act No. 191/1950 Coll., Article I, § 2). A bill of exchange may be drawn payable to drawer´s order, on the drawer himself, or for the account of the third person (Act No. 191/1950 Coll., Article I, § 3). Every bill of exchange, even if not expressly drawn to order, may be transferred by the endorsement. When the drawer has inserted in a bill of exchange the words “not to order” or an equivalent expression, the instrument can only be transferred according to the form, and with the effects, of an ordinary assignment (Act No. 191/1950 Coll., Article II, § 11). A bill of exchange may be drawn payable: at sight; at a fixed period after sight; at a fixed period after date; at a fixed date. Bills of exchange at other maturities or payable by instalments are null and void (Act No. 191/1950 Coll., Article V, § 33).

Forms of misuse of bills of exchange and the legal implications

There are many different forms of how to manipulate and misuse the bills of exchange in business operations. Legitimate bills are typically sold to sophisticated investors, but less experienced companies or individuals should be extremely sceptical of any salesperson offering to sell them a “profitable” promissory note. To avoid any scams, the buyer should investigate the person who is selling the notes, check their license, and economic health. The creditors should be sceptical of notes that are supposedly insured or guaranteed or note that promise to be risk-free, high yield investments (U.S. Securities & Exchange Commission Office of Investor Education and Advocacy, 2020).

Credit Fraud Using a Counterfeit Bill of Exchange

The debtor may commit a criminal offense, for example, if he provides the creditor with a **counterfeit or an uncovered bill of exchange** as collateral and thus tries to attract money from it that he would not otherwise have provided.

Example:

The 39-year-old woman committed the crime of counterfeiting and altering the means of payment by forging a bill of 2 million crowns in her desire to enrich herself at the expense of her ex-husband, and claimed it as genuine. The husband turned over to the police, who convicted the perpetrator with graphological expertise and proof of motivation. The court imposed an unconditional sentence on her.

This conduct may fulfill the factual substance of the criminal offense of credit fraud according to Section 209 of Act No. 40/2009, Coll., The Criminal Code, as amended (originally Section 250b of Act No. 140/1961, Coll.). The counterfeiting of the bill of exchange itself is also criminal – it is a criminal offense of counterfeiting and alteration of money according to Section 233 of the Criminal Code (originally Section 140 (2) in conjunction with Section 143 of the Criminal Code).

Abuse of Non-existent Promissory Note Debt

In the case of a creditor, the situation is somewhat more complicated. In theory, criminal liability could be considered in particular in the context of conduct where the **creditor asserts a non-existent bill of exchange claim** (again, for example, based on a forged bill of exchange) or seeks payment of more than his claim against the debtor through hedging institutions.

Example:

After receiving the amount owed, the creditor further endorsed the bill of exchange, as it is not hindered by the bill of exchange law. The debtor did not request the return of the bill into his own hands after fulfilling the causal obligation, so his debt persisted. He had to pay the stated amount once again.

In this case, the Supreme Court placed the main responsibility on the debtor. Therefore, the debtor had to proceed with the utmost caution from the bill of exchange and take due care of the protection of his rights. In its resolution of 16 May 2006, file no. 7, 475/2006 NS it stated the following conclusion: “At the moment when the accused fulfilled his obligation under the loan agreement, the securing function of the bill of exchange was exhausted and Mr. W had the right to have the bill returned to him. However, the bill of exchange was not returned and the bill remained at the disposal of Mr. X, without, however, for the bill of exchange law being in any way affected. The subsequent transfer of the bill of exchange first to the accused Mr. Y and then to Mr. Z, therefore, did not contradict the law of the bill of exchange and in itself cannot be the basis for the conclusion of fraud of the accused in the sense of § 250 of the Penal Code. Act ”(today § 209 of the Criminal Code).

Bill of Exchange as a Means of Misleading

Similarly, the Supreme Court in its resolution of 28 April 2005, file no. 11, 229/2004 concluded that “fulfilment of the legal feature of the factual substance of the criminal offense of fraud according to Section 250 of the Penal Code. Act (now Section 120 of the Criminal Code), consisting of **“misleading someone”**, cannot be seen in the fact that the accused has filed a lawsuit leaning on a counterfeit bill. A court deciding in civil proceedings on such submissions cannot be regarded as an entity that could be misled in that way. Such conduct of a “creditor” is, in the opinion of the Supreme Court, criminal only as a criminal offense of counterfeiting and changing money (see above). In this respect, the Supreme Court probably proceeds from the nature of criminal law as the ultima ratio, i.e. remedy only when all other remedies for the breach of interests have failed.

Draft as the Subject of the Crime of Theft

A bill of exchange may also be the object of the crime of theft in the sense of the provisions of Section 205 of the Penal Code. disciple.

Example:

The crime of theft was committed by an unknown perpetrator. In the late-night hours, he stole a bill of exchange for an unpaid prize of 15,000 CZK from the wallet of the 36-year-old man visiting the bar. However, the robbed man told the police that he had won a total of 30,000 CZK and demanded this amount from the owner of the bar.

In such a case, the rule contained in the resolution of the Supreme Court of 22 September 2004, file no. 3, 710/2004: “if special circumstances do not justify a higher or lower price of the bill of exchange according to the aspects specified in the provisions of Section 89, Paragraph 12 of the Penal Code. disciple. (today § 137 of the Criminal Code), then, in determining the amount of damage caused by the crime of theft, the subject of which was a foreign bill of exchange, is based on the nominal value to which the bill is issued.”

Promissory Note Issued by Physical vs. Juridical Person

The question is often asked whether a bill of exchange can be signed by a legal person in addition to a physical person.

Example:

The sales agent signed a bill of exchange on behalf of the company he worked for. The bill was endorsed several times, and the new owner suddenly required the sum to be paid by the drawer, i.e. the agent. He objected that the company is the one who is obliged to pay.

In principle, bills of exchange may be represented, including by proxy; the power of attorney must be in writing. The power of attorney to represent in a bill of exchange matters is not an explicit bill of exchange legal institution and its regulation is governed by the general provisions on representation based on a power of attorney. It does not automatically follow from these provisions of the Civil Code or the Bill of Exchange Act that the power of attorney for representation must be indicated on the bill of exchange. If it is the signature of a legal entity, it must be clear from the bill of exchange which person it is (the bill of exchange must contain the name of the business company) and at the same time the bill of exchange must be signed by a natural person (s) authorized on its behalf. The fact from which the signing natural person derives the right to act on behalf of the legal entity, or for it, while it is not a necessary “part” of the signature of a legal entity on a bill of exchange. In other words, the fact that a natural person signs a bill of exchange on behalf of a legal person (or on behalf of a legal person) without stating an indication from which his authority to do so would be obvious does not mean that the legal person is not obliged; the decisive factor is whether the natural person was entitled to sign the bill of exchange on behalf of (or on behalf of) the legal person.

At the same time, such authorization will not usually result from the content of the bill of exchange, but, for example, from the data contained in the **Commercial Register** or in the **power of attorney to represent**. Conversely, if a natural person, acting on behalf of (or on behalf of) a legal person, states in the bill of exchange the fact which entitles him to such action and if it turns out that his authority in this regard was established otherwise, it is not without another reason for the procedure under the provisions of Article I. § 8 of the Bill of Exchange Act, which states that whoever signs the bill of exchange as a representative of a person for whom he is not authorized to act is obliged to pay the bill of exchange, and if he pays, has the same rights as the person for whom he acted according to his data. This also applies to a representative who has exceeded the limits of his authority. From the precedent judgment of the Supreme Court of the Czech Republic file no. 29, 3180/2011, of 28 March 2012, it follows that there is no doubt that the participants in promissory notes may be represented by a written power of attorney, whereby the power of attorney to represent in promissory notes is not an explicitly promissory note legal institution, but its the regulation is governed by the general provisions on representation based on a power of attorney (provisions of Section 31 of the Old Civil Code or Section 161 of the New Civil Code, et seq.). It does not automatically follow from these provisions of the Civil Code or the Bill of Exchange Act that the power of attorney for representation must be indicated on the bill of exchange.

Regression Claim of a Security Promissory Note Debtor

Equally often, the question is asked about the regression claim of the security promissory note debtor.

Example:

YourShop Ltd. concluded a purchase contract with the supplier of gardening tools, My Garden Ltd. In addition to it, My Garden Ltd. issued a “security bill” amounting to 5,000 USD. There is no mention of this bill of exchange in the purchase contract, it was only agreed orally that the bill of exchange was intended to secure the debt of YourShop Ltd. to MyGarden Ltd. The buyer got into a delay of several days with the payment to the seller, who immediately endorsed the bill of exchange to the third company specializing in debt collection. YourShop Ltd. then paid its debt to MyGarden Ltd., but in a few days, a bill of exchange payment order arrived from the court to pay 5,000 USD + administrative fees in favor of the debt collection company. MyGarden Ltd. put their hands away from the problem and pretended it's not their business. YourShop Ltd. Tried to prove that the bill of exchange performed only a hedging function. The agreement with My Garden Ltd. was only verbal and they surprisingly refused to comment. The Court examined only the formalities of the bill of exchange and finally condemned YourShop to pay.

Although the issuance of a bill of exchange is usually based on a certain reason (cause), the bill of exchange creates a specific (bill of exchange) legal relationship, the abstract nature of which lies in the fact that the **legal reason (case) is not significant for its existence and does not follow from the bill of exchange**. The bill of exchange liability is completely stand-alone and separates from any liability that was the source of its origin. Given that the law does not distinguish between different types of bills (legal theory defines the differences between bills of exchange for soluto, for solvendo and bills of exchange), it must be concluded that the so-called hedge bills are not an ancillary obligation concerning another obligation means of hedging and not a hedging obligation). The fact that, according to the participants' agreement, the purpose of the bill of exchange is to ensure the fulfilment of a certain obligation will then be reflected in the so-called causal objections (Article I § 17 of Act No. 191/1950 Coll.), By which the debtor may defend his obligations from the bill of exchange. to fulfil. It also follows from the above-defined nature of a security bill of exchange that a receivable is not extinguished by performance on a security bill of exchange (as opposed to performance under a guarantee or lien) and also by performance on a security bill. The secured receivable does not expire from the security bill. If the bill of exchange secures the fulfilment of a receivable from a third party (different from the debtor from the bill of exchange), by paying such a bill of exchange, the bill of exchange debtor pays his debt from the bill of exchange. However, even in this case, it cannot be overlooked that for the performance by the person who provided the collateral (the securing debtor), it is generally the case that it is a substitute performance of what the debtor was primarily required to perform on the secured receivable. If the debtor of the bill of exchange has fulfilled under the title of a security bill of exchange, he in principle has a "recourse" claim against the debtor of the receivable secured by the bill of exchange; the origin of this claim and its amount must be assessed (in the absence of explicit legislation) by analogy according to the provisions on unjust enrichment, § 454 et seq. of the old community. disciple. resp. § 2991 et seq. new citizenship disciple. (The direct application of these provisions is hindered by the fact that the debtor has fulfilled the promissory note from the bill of exchange based on his legal obligation given by the bill of exchange). The precedent of the Supreme Court file no. 29, 1141/2006, of 28 August 2008, confirmed this right of the debtor of the bill of exchange.

Possibility of transferring the non-endorsable bill of exchange to a third party by assignment of debt (cession)

It is generally considered that a non-endorsable bill of exchange, marked "not to order", is not transferable by endorsement and that therefore the payment obligation cannot be transferred to another creditor. Precedent resolution of the Supreme Court file no. 29 Cdo 1484/2008, dated 15 July 2008, however, interprets this fact differently. The form of transfer of the right bill of exchange (successive contract – § 524 of the Old Civil Code, possibly § 1879 of the new Civil Code) follows from the provisions of Article I § 11 par. 2 of the Bill of Exchange. He says that if the issuer has included in the bill of exchange the words "not to order" or another clause of the same meaning, the bill of exchange can be transferred only in the form and with the effects of the ordinary assignment of debt (cession). Agreements prohibiting the transfer of a bill of exchange shall not invalidate such transfer.

Sometimes in business practice, there is a situation where the representatives of both parties are in a hurry and **the blank bill of exchange is acknowledged by aval before it is signed by the issuer. In principle, it is possible**. The provision of Article I. § 10 of the Bill of Exchange Act does not explicitly define a blank bill of exchange but allows a bill of exchange to be issued which is incomplete at the time of issue and is to be filled in later, as agreed. The law does not prescribe any formal requirements for an agreement to supplement a blank bill of exchange, nor does it stipulate which requisites of a bill of exchange may be supplemented later or which, on the contrary, cannot be supplemented.

Example:
Companies Alfa and Beta agree to issue a blank bill of exchange with a fixed due date but without stating the amount of money due. The creditor, company Alfa, requires the bill to be acknowledged by aval of the Beta's bank. Surprisingly, Alfa applied this guarantee immediately and demanded the amount from Beta's bank that was many times higher than the amount originally agreed. The bank paid it out and Alfa added this amount on the blank bill of exchange. Beta lost its money.

According to the Czech law, the resolution of the Supreme Court of the Czech Republic, the file no. 29, 1261/2004, of 23 November 2005. According to him, a blank bill of exchange becomes a bill of exchange only after the missing requisites have been completed. The effects of the conversion of a blank bill of exchange into a duly completed bill of exchange then occur ex tunc. Ex tunc will, therefore, give rise to a commitment on the part of the guarantor, who signed the blank bill of exchange. If the issuer signed the blank bills of exchange only after their maturity, they **became valid** bills of exchange only **at the moment of its signing**.

Out-of-court Settlement Agreement
Finally, we would shed some light on the situation where a promissory note debtor and a promissory note creditor want to agree on a settlement other than by a complicated route through a court order for payment.

Example:
Company Gama owed company Delta 10,000 USD for the goods delivered and did not intend to pay its debt even after several calls from the creditor. In the meantime, Delta bought valid 50,000 USD bills from other creditors and threatened Gama to take them to court immediately because they were on sight (sight draft). In such a case Gama would suffer a loss that would cause its bankruptcy. Both companies arrived at the agreement that the original debt will be paid under the purchase contract, and the sight drafts will be paid according to the agreed repayment schedule.

The Czech judicial precedent provided by the judgment of the Supreme Court file no. 29 Cdo 1130/2011, dated 31 May 2011, shows that claims from bills of exchange are property-based when an obligation to pay a certain amount of money is incorporated into them. The dispute over the payment of the bill of exchange is therefore a property dispute. In § 2 paragraph 1 of Act No. 216/1994 Coll. on arbitration and the enforcement of arbitral awards, it is stated that the parties may agree that property disputes between them, except disputes arising in connection with the enforcement of decisions and incidental disputes, for the hearing and decision of which would otherwise have jurisdiction or this is provided for by a special law, to be decided by one or more arbitrators or by a permanent arbitral tribunal (arbitration agreement). The condition required by the provision of § 2 par. 2 of the Arbitration Act is also met, i.e. that the parties could conclude a settlement on the subject matter of the dispute. It seems that thanks to these provisions, the participants in the bill of exchange relations can find several viable solutions to their problems and, last but not least, they will also save a considerable amount of money.

4. SUMMARY

The use of a bill of exchange in business operations has its advantages and disadvantages. The relevant legislation, the Bill of Exchange and Check Act, is one of the most sophisticated legal regulations in the country. The possibility of debt coverage is very simple and court proceedings are significantly faster and simpler. The big advantage is easy transferability, fast withdrawal of money, and the possibility of it as a hedging tool.

But it is this simplicity, on the other hand, attracts fraudsters and brings problems of misuse, counterfeiting, manipulation, and extortion. The paper focused on selected cases of criminal conduct and highlighted legal views and solutions based on the precedences from Czech courts jurisdiction, namely on the areas of using counterfeit bills to commit credit frauds, abuse of non-existing debts declared by spurious promissory notes, misleading bills of exchange, unauthorized use of stolen promissory notes, drafts signed by physical vs. juridical persons, regression claims of a security promissory notes, transfer of the non-endorsable bill of exchange to a third party by assignment of debt (cession), and the out-of-court settlement agreements.

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IS IT POSSIBLE TO IMPROVE METHODS OF INTELLECTUAL PROPERTY VALUATION?

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Abstract
Evidence from this study points towards the conclusion that financial statements currently only reflect a historic financial record of the particular business, profoundly biased by a conservative tangible assets perspective. Hence, in most cases, accounting provides insufficient information, reflecting significant hidden aspects of value of intellectual property assets while not distinguishing between different purposes of the valuation. Having in mind that approximately 120 nations and reporting jurisdictions permit IFRS for domestic listed companies, the enhanced recognition of in-house developed intellectual property assets may be the next vital accounting standards improvement. Furthermore, enhanced narrative reporting may help to promote disclosure by companies, revealing forward-looking information about value drivers, trends, risks, and uncertainties related to intellectual property assets.

Keywords: *intellectual property, valuation, IFRS, intangible, research and development*

1. INTRODUCTION

In today's world, IT services, business services, and intellectual property royalties are growing two to three times faster than the trade in traditional goods (Woetzel and Seong, 2019). Analysis of the Fortune 500 companies shows that in 1975, tangible assets represented up to 60 per cent of company value (Chaplinsky, 2008). More recently, tangible assets represent as little as 20 per cent of company value (Tomo and Davis, 2013). Since investments in intellectual property assets seem to be approaching levels comparable to investment in fixed assets (OECD, 2008) – in the context of expenditure – experts project that intellectual property value will continue to rise both for individual companies and national economies (ibid.). Thus, in the context of the knowledge economy, in times when the drivers of global competition are shifting dramatically, the valuation of intellectual property becomes increasingly important for commercial reasons.

Nevertheless, many companies and financiers have little idea of how to objectively value, account for, or utilise this significant value. Current financial statements provide very little information about these assets, which becomes evident in this research. Even worse, much of the accounting information is partial, inconsistent, and confusing for companies, investors, and society (Lev, 2003). Consequently, the failure to deliver an accurate assessment of the intellectual property assets prevents businesses from making well-informed strategic decisions. Thus, the underlying research question of this paper is: “In what way is it possible to improve or simplify the quality and accuracy of IP valuations?”

This research investigates methods to help facilitate accurate intellectual property valuation, including more reliable valuation methods, enhanced consensus and transparency about methods, improved reference points for assessment of intellectual property assets, and greater coordination between lawyers, accountants, and standards boards. This paper relies on qualitative research methods such as case law analysis and comparative legal research of accounting standards and approaches. This paper takes a fresh look at intellectual property valuation, reporting while offering an alternative comprehensive valuation model.

2. RESEARCH HYPOTHESIS

Considering the growing importance of intellectual property assets to the global economy (OECD, 2008), the improvement of accounting standards surrounding intellectual property is essential. Such improvement would encourage further economic development and more accurate valuation of intellectual property, providing better access to data and comparable intellectual property transactions. From a global standpoint, the establishment of a body responsible for setting standards and guidelines worldwide would be promising in terms of improving intellectual property valuation, raising awareness, promoting knowledge, and educating a broad audience (ibid.).

A current lack of sufficient standards surrounding intellectual property assets limits comprehensive decision-making and also limits types of intellectual property transactions to the detriment of the owner of intellectual property assets. Evidence from this study points towards the conclusion that current accounting standards cannot fully reflect the entire value of intellectual assets, often only accounting for a fraction of the value of intellectual property assets. Having in mind that approximately 120 nations and reporting jurisdictions permit IFRS for domestic listed companies (IFRS, Questions and Answers: Developed by American Institute of Certified Public Accountants, 2020), the enhanced recognition of the in-house developed intellectual property assets may be the next vital accounting regulation improvement. Furthermore, enhanced narrative reporting may help to promote disclosure by companies, revealing forward-looking information about value drivers, trends, risks, and uncertainties related to intellectual property assets (OECD, 2008).

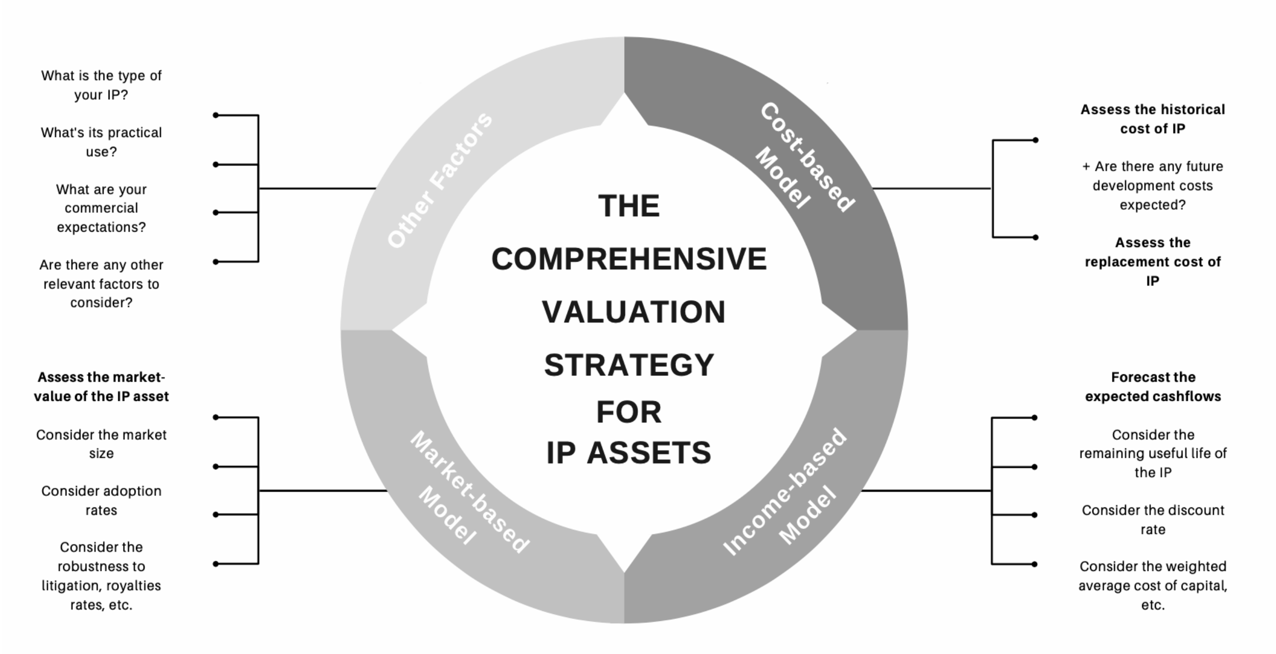
Improved information flows about intellectual assets would be quite promising by reducing information asymmetry and generalised valuations (ibid.), while providing the improved reference points for future assessment of intellectual property assets and encouraging greater coordination between lawyers, accountants, and standards boards. Moreover, improved information flows could facilitate collateralisation of intellectual property, increasing IP-backed loans and increasing the amount of available credit, liquidity, and working capital for the owner on more favourable terms.

Although the owner is more likely to perceive the value of the intellectual property asset in terms of costs and returns, the potential investor of the intellectual property may see it from the perspective of its market value. In this sense, the absence of a transparent background for an accurate intellectual property valuation and the lack of comparison points from other companies with comparable intangible assets severely limit the range of the beneficial intellectual property transactions for the owner. Without the ability to accurately value intellectual property, innovators are often forced to into unfavourable terms with VCs and private equity investors or forced to merge with companies with more substantial financial resources. This decision may lead to investors reaping the highest rewards from the owner's in-house-developed innovations while, at the same time, reducing the original owner's control over intellectual property assets.

Increasing the accuracy of valuation through accounting standards could allow for further options to the owner of in-house-developed intellectual property. For instance, it could provide the owners with an opportunity of taking a fixed charge over specific intellectual property for purposes of debt financing. By contrast, taking floating charge over all assets is currently a more prevalent practice, which gives more favourable terms to larger, more mature companies.

Increasing the accuracy of valuation could also allow placement of intellectual property assets into a "special purpose vehicle" (SPV) for purposes of financing, which would enable the owner to maintain the exclusive right to use these assets during the period of finance; further, the investor in the SPV would get the benefit of knowing that if the owner cannot repay the finance money over an agreed period, it is still possible to take the assets of the SPV free and clear of encumbrances. Enhanced transparency in accounting standards and more reference points to similar intellectual property would contribute to achieving much better debt financing interest rates in the SPV for intellectual property. The owners of these intangible assets, in turn, would have a better chance of maintaining control over the intellectual property in the long-term, allowing them more time to monetise this intellectual property in a way that is often not currently possible.

Figure 1. The comprehensive valuation strategy for IP assets (12 pt.)



3. COMPREHENSIVE INTELLECTUAL PROPERTY VALUATION STRATEGY

It makes sense to adopt the comprehensive intellectual property valuation strategy to ascertain the specific value of the intangible assets (Fig. 1). After defining the purpose of valuation, the first step for revealing the value of intangible assets is to develop a precise understanding of the intellectual property elements involved in the project, e.g., patents, trademarks, copyrights, or/and trade secrets. It is also crucial to formulate rational expectations of the commercial potential based on the market, features, functions, and practical use benefits of the specific intellectual property asset.

3.1 Cost-based approach

From the cost-based approach of accounting, it is necessary to measure the value of the intangible asset in terms of aggregating the costs involved in its development or acquisition. Thus, the second step of the comprehensive intellectual property asset valuation is to assess the historic and replacement costs of its development. Also, the most relevant data for the cost model implementation includes management costs, legal, licensing, and patent registration fees, opportunity cost, labour costs and any material costs involved, etc. (OECD, 2008). It is also vital to understand if the intellectual property requires further investments in development or external financial support.

The deal between Cystic Fibrosis Foundation Therapeutics (CFFT) and CombinatoRx, Inc. exemplifies a cost-based valuation model application in practice (Committee on Development and Intellectual Property, 2016). The principal purpose of this collaboration was to discover and develop novel therapeutics designed from synergistic drug combinations to fight cystic fibrosis, affecting about 30,000 people in the United States (Adler, 2006). Under the terms of the agreement, CFFT provided CombinatoRx, Inc. with $13.8 million in research funding and up to 75% of clinical development funding through Phase IIa on the first product candidate in funding (ibid.). Furthermore, in case of the successful realisation of clinical and regulatory milestones, CFFT agreed to cover the remaining 25% of costs (Committee on Development and Intellectual Property, 2016). At the same time, CombinatoRx, Inc. maintained worldwide commercialisation rights, while CFFT was granted royalties from CombinatoRx, Inc. on net sales of any marketed products (Adler, 2006).

Even though the cost-based method may satisfy the criteria of consistency and accuracy in the context of accounting, it may be less efficient when solely applied. For instance, the application of the historical cost-based approach is challenging due to the difficulties with isolating the expenditure that is specifically related to developing the intellectual property, the lack of relevant information on costs for older intellectual property, the need to adjust them to reflect current prices, etc. (Bertolotti, 1996).

Furthermore, in many cases, the specific value of intellectual property has little correlation with its cost (WIPO, 1998). For instance, as of 14 July 2020, the Clinical Informatics Research Unit (CIRU) tracked global public and philanthropic funding for COVID-19 related research totaling $1.1 billion (Clinical Informatics Research Unit. 2020). Nevertheless, some of the newly-created vaccines developed at a substantial cost may never even reach the market because, for example, they may unexpectedly fail safety tests and never obtain regulatory approval. On the other hand, just one successful, widely-available vaccine could help redress the global economy which has – thus far – lost up to $8.8 Trillion (Asian Development Bank). Moreover, history knows some examples of accidental inventions which turn out to have enormous value, e.g., as saccharin, Play-Doh, Scotchgard, the microwave oven, the development of which the cost was incidental to their creators. In other words, the success of some inventions might not reflect the costs incurred in developing them.

3.2 Active-market replacement cost approach

In most cases, intellectual property valuation is incomplete, with no reference to an active market. Under accounting standards, active market reference may be another source for intangible assets valuation; this approach requires a determination that the worth of the intangible asset does not differ materially from its fair value after its initial recognition (International Accounting Standards, 2020). In this sense, an active market is a market of equivalent objects, in which there are willing buyers and sellers at any time, and the prices are available to the public (ibid.). The possible downside is that this approach currently seems to be more suitable for tangible assets since active markets for tangible equivalent objects are more mature (Turner, 2000).

Although the active-market replacement cost approach resolves some issues, the main obstacle is finding analogous intellectual property, in part, due to the unique nature of intellectual property assets and immature active markets (OECD, 2008). From the accounting point of view, the input data must be available and accurate for a reliable valuation result. Even if there are identical intellectual property assets identified, there could be some other factors, altering their value, e.g., the right-holders of these assets, or their utilisation (ibid.). Remarkably, the scarcity of available intellectual property market information becomes a substantial challenge in the context of early-stage technologies since it may be very difficult to find equivalents in the market.

In the case when it is possible to apply the active-market replacement cost approach, it requires extensive market research to understand the active market by defining, e.g., its size, adoption rates, robustness to litigation, royalty rates, technology value, and other parameters (Parr, 1999; WIPO, 1998). Other aspects of the relevant market may include the diversity of the products or processes to which the intellectual property is applicable, the market location and size, internal competition, etc. (ibid.). The application of the active-market replacement cost approach seems to only be possible when there is available information concerning the prices and transparent circumstances of the equivalent transactions to consider as benchmarks (OECD, 2008). Hence, the valuation expert has to demonstrate extreme caution when relying on deals with unconvincing or incomplete information (ibid.). For the above reasons, the cost-based approach currently prevails in accounting practice, which means that the source of valuation is the aggregate the costs involved in its development or acquisition (Ghafele, 2003).

Innovation development often correlates with numerous risks and unpredictable results. The future gains of some inventions are hard to predict. For instance, there is a well-known example of Play-Doh. Initially, the product was a commercial failure, offered as a wall cleaner (Hiskey, 2015.). Fortunately, kids and teachers loved its stickiness and started to apply it creatively, using it to make little sculptures (ibid.). The message of this story is that, in some cases, it takes time to discover the specific value of the invention, and this discovery may be completely unpredictable. By contrast, in other cases, the significant investment into developing innovation does not necessarily reflect its future income since it could fail in terms of its technological parameters, or further commercial utilisation (Ocean Tomo, 2014).

3.3 Income-based approach

A discounted cash flow or a similar technique, applied in the income-based approach, often involves a certain degree of assumption; it considers the expected financial income as another significant indicator of the intellectual property value. This approach requires some reasonable assumptions regarding the remaining useful life of the intangible asset, its appropriate discount rate, the weighted average cost of capital, etc. (OECD, 2008). In this respect, it is crucial to understand that just like any other asset, intellectual property has a varying ability to generate economic returns based on its economic, functional, technological, and legal life (ibid.). For instance, a literary novel may yield cash flows for the legal length of copyright protection (often longer than 70 years), whereas the computer software program may yield cash flows for a useful economic life span of less than 10 years (ibid.).

In a general sense, the useful life of an asset is indefinite when there is no foreseeable limit to the period over which the asset generates net cash inflows for the entity (International Accounting Standards, 2020). The principle difference is that an intangible asset with an indefinite useful life is not subject to amortisation (ibid.). By contrast, if its useful life is finite, the company is required to amortise it, which is a very similar process to the depreciation of tangible assets over time (ibid.). As a result, the amortisation of the intangible asset with a finite useful life reduces its value on the balance sheet over time, while being reported as an expense on the income statement each period, which highlights the significance of remaining useful life and depreciation rates for accurate valuation (OECD, 2008). Thus, when applying the income-based approach for intangible asset valuation, it is critical to consider the useful lives of the evaluated intangible assets.

Comprehensive application of the above three valuation models is likely to yield superior results to using them separately. Apart from the worth of the intellectual property asset, it is essential to evaluate the other aspects that may affect its value, e.g., ownership rights and their transferability, intellectual property protection strategies, the market and market competitors, peculiarities about the project, and the potential cost of its protection and management (WIPO, 1998).

With this in mind, comprehensive evaluation of the value of the intellectual property assets may require the adoption of an effective strategy, based on credible data and the successful combination of the costs, replacement price, and income approaches. A comprehensive, combined approach should be reflected by the intellectual property owner's accounting policy, rather than attempting to separately implement each accounting approach.

4. A CANADIAN FORENSIC, COMPREHENSIVE APPROACH

The above, comprehensive intellectual property valuation strategy is helpful in theory, though currently, financial statements are not comprehensive in terms of intellectual property; current, financial statements only reflect a historic financial record of the particular business, profoundly biased by the conservative tangible assets perspective. Looking for other examples of comprehensive intellectual property valuation strategies, lawsuits can help us see how theoretical approaches work, in practice; nonetheless, lawsuits where the valuation of intellectual property is the heart of the dispute are rare. The closest, practical examples to comprehensive intellectual property valuation strategies we can find relate to the calculation of damages and losses in Canadian intellectual property lawsuits. Analysis of the Canadian, forensic approach can help explore, by analogy, comprehensive intellectual property valuation strategies, in practice.

4.1 Canadian forensic, active-market cost consideration

In Canada, if an intellectual property infringement is proved, the intellectual property owner is entitled to reimbursement of lost profits, calculated as the predictable profit on the lost sales plus the diminished profit on the actual sales (Harington et al., 2012). The broad category of lost profits may include lost profits on sales, from higher production costs, from lost convoyed sales, springboard damages, early adopter advantages, lost potential (future) profits, etc. (ibid.). In this regard, IFRS fairly states that these benefits flowing from an intellectual property asset may include revenue from the sale of products or services, cost savings, or other benefits resulting from the use of it by the entity (International Accounting Standards, 2020).

It is crucial to define what would have been the course of the events if there was no infringement of intellectual property rights (Harington et al., 2012). Hence, it is important to consider the dynamic interplay of market forces that would have affected the plaintiff's profit over the period of infringement. Based on the Allied Signal Inc. v. DuPont Canada Inc. and Complax Corp. of 1998, these factors include, e.g., the presence of competing products in the marketplace, the advantages of the patented products over them and vice versa, the market positions of the owner and the infringer, the market shares of the parties before and after the infringement, etc. (ibid.). In essence, this method to determining lost profits seems to be loosely related to the active-market replacement approach, mentioned above, which seeks market transactions involving comparable assets and uses them as a source for defining the worth of intellectual property (Singla, 2005). Consequently, this approach to the determination of profits in intellectual property lawsuits requires complex economic analysis, based on the precise reference to the active market and anticipation of certain events (Harington et al., 2012).

4.2 Canadian forensic, income-based consideration

In Canada, if an intellectual property infringement is proved, the court can also award damages equal to the amount of the lost sales or licensing fees or an account of profits (Andrews and De Beer, 2009). In case of the accounting of profits, the amount of an award would depend on the defendant’s profits attributable to the infringement (ibid.). The potential advantage of the accounting of profits is that, in some cases, it is easier to prove the infringer’s revenues from its infringing sales compared to measuring the extent of the lost sales or licensing fees resulting from the infringer’s conduct, which is essential for awarding the damages (Want and Davies, 2018).

Nevertheless, the central challenge of this approach is to distinguish income earned as a result of infringement and the profits that the infringer would gain in any case. The Canadian courts have adopted the differential profits approach, also known as ‘non-infringing alternative’ defence to overcome this issue (ibid.). According to the non-infringing alternative defence, courts award owners based on only the portion of the earnings that would not have arisen but for the infringing activity (Andrews and De Beer, 2009). If a defendant could use a non-infringing alternative instead of the account for profits, then the profits to be disgorged are calculated by deducting the earnings that would have arisen in absence of the infringing activity (ibid.).

We analyse two accounting of profits cases, starting with the decision in Monsanto v. Schmeiser, and followed with Monsanto v. Rivett. In the course of these trials, the Canadian Courts have elaborated on the basic rules, applicable to the accounting of profits remedy, declaring when it is possible to award them, as well as the methods for determining the quantum (Horne, 2011). Monsanto Company of St. Louis, Missouri, and its Canadian subsidiary, Monsanto Canada Inc., sell several genetically modified seed varieties (Andrews and De Beer, 2009).

In Monsanto Canada Inc. v. Schmeiser, 2004 SCC 34, the Trial Division of the Federal Court ruled that the defendant infringed Monsanto’s patent, growing 950 acres of canola in breach of the Patent Act, RSC 1985, c. P-4 (ibid.). As a result, the court awarded profits of $105,000 for Monsanto US and damages of $15,450 for Monsanto Canada, as well as exemplary damages of $25,000 and prejudgment and post-judgment interest (Andrews and De Beer, 2009). The judge rejected the defendant's argument that there were no measurable earnings gained as a result of the infringement and considered that the defendant's labour as a deduction in accounting for profits (ibid.). Since the trial judge determined that the monetary award should equal no more than the profit from the sale of the defendant’s 1998 canola crop, the court calculated as the attributed a net profit of $35,034 minus the allowance of $15,202 for the defendant’s labour and other indirect fixed expenses (ibid.). After both parties appealed, the Federal Court of Appeal, allowed the non-infringing alternative defence, ruling that a patent owner should only be entitled to the infringer’s profits enjoyed as a result of the infringement (ibid.). Therefore, although Monsanto’s usual royalty rate for patented seed technology is about $15 per acre, Schmeiser had to pay only $19 per acre based on this ruling of the Federal Court of Appeal for his infringement (ibid.).

In Monsanto Canada Inc. et al. v. Rivett, 2009 FC 317, if the defendant was selling a non-infringing alternative instead of infringing soybeans, he would have earned 18% less if he had not infringed Monsanto's patent (Horne, 2011). The higher income is a result of Monsanto’s technology, producing higher yields and being a less expensive weed control (Canadian Biotechnology Action Network, 2009). The trial judge allowed the non-infringing alternative defence. The Federal Court of Appeal rejected Monsanto’s argument that the non-infringing alternative defence is inadequate in the context of intentional infringement. Similar to the Schmeiser case, in Monsanto Canada Inc. et al. v. Rivett, the Federal Court of Appeal stated that this approach is preferable when it comes to calculating an accounting of profits.

The two cases discussed above bring to light the evidence that, in some cases, the difference in the quantum of profits determined under the non-infringing alternative defence may be substantial. Although an accounting of profits as a remedy may, in some cases, result in lower monetary recovery for plaintiffs than damages, in other situations, it may still maximise the sum awarded.

The analysis reveals that Canadian courts take a comprehensive approach to intellectual property damage and loss calculation, with an emphasis on trying to apply the most accurate approach, given the situation. Thus, the Canadian forensic approach could be helpful when considering accounting standards improvements regarding intellectual property.

5. CONCLUSION

Intangible assets currently represent up to 80 per cent of company value (Tomo and Davis, 2013). Furthermore, investments in intangible assets seem to be approaching levels comparable to investment in fixed assets (OECD, 2008). In this light, experts project that intellectual property value will continue to rise both for individual companies and national economies (ibid.).

Nevertheless, evidence from this study points towards the conclusion that the financial statements can currently only reflect a historic financial record of the particular business, profoundly biased by the conservative tangible assets perspective (Ghafele, 2003). Hence, in most cases, accounting provides insufficient information, reflecting significant hidden aspects of the specific value of intangible assets while not distinguishing between different purposes of the valuation. Furthermore, the catch-all category of goodwill, reflecting the sum of unrecognized intangible assets (i.e., purchase premium), leads to the problem with other intangible assets being relatively under-accounted-for in financial reports (Giuliani and Brännström, 2011).

Having in mind that approximately 120 nations and reporting jurisdictions permit IFRS for domestic listed companies (IFRS, Questions and Answers: Developed by American Institute of Certified Public Accountants, 2020), enhanced recognition of the in-house developed intellectual property assets may be the next vital accounting standards improvement regarding intellectual property. Furthermore, enhanced narrative reporting may help to promote disclosure by companies, revealing forward-looking information about value drivers, trends, risks, and uncertainties related to intangible assets. Moreover, increasing the accuracy of valuation through accounting standards could allow for further options to the owner of in-house-developed intellectual property, e.g., taking a fixed charge over specific intellectual property for purposes of debt financing, and including the possibility of placing the intellectual property assets into an SPV for purposes of financing.

Overall, it seems critical to reconsider the uncoordinated application of the diversified valuation models which estimate value from different angles, without any alignment or consensus. Considering that current intellectual property valuation methods reflect different aspects of value, the combination of models seems to be the optimal approach. This paper offers a comprehensive strategy as an alternative model for valuation of intellectual property. The proposed approach seeks to bring more clarity to the valuation process while improving the appraisal of intellectual property assets. The efficacy of our proposed approach is subject to increased transparency, a maturing intellectual property market, and credible data availability.

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Capital Market

BUYOUTS – A GORDIAN KNOT?

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Abstract
Recent events have brought the issue of buybacks to the front pages of some papers because a Congressional committee found that funding for Covid relief was being used by some companies to buy back shares. The financial press reported, at the same time, that buybacks had reached a record. This form of investment has been used in the past to increase shareholders value, but its use, as it becomes more widespread, needs closer examination. This study is based on examination of 10-Ks of the 75 largest stocks listed on the S&P 500. It shows where the activity is most prevalent, examines the implications of the practice, and looks at accounting practices related to it. Some recommendations to improve the situation are made at the end. This is intended as an initiative study into a far more complex issue than could be covered in a paper of this scope.

Keywords: *buyouts, IFRS 10, shareholders' equity*

1. INTRODUCTION

The question of stock buybacks by companies has become an issue in recent years for several reasons. Companies have undergone changes which have challenged use and perception of the corporate form of doing business. Mergers and acquisitions have become extremely active in the past decade, resulting in growth in goodwill (Muir, 2019). Tax cuts, government subsidies and quantitative easing have poured liquidity into the market, while forcing interest rates to remain low. This, in turn, has encouraged borrowing with increased corporate debt. What are financial managers to do? Warren Buffet has said "…managers can't do something stupid, just buy what they know, their own stock." (Brown, 2018).

Is this why stock buybacks have become popular? When a company has a pool of capital available, it must use that resource in some way, or face an increased risk of being taken over – large cash pools are tempting for potential acquirers because they are, in effect, a discount on the price of acquisition. A financial manager has two choices if he wishes to reduce this risk. He can issue special dividends to give some wealth back to shareholders. This is usually short-lived and more a flash-in-the-pan event. The second is more sustained and creates other possibilities. That is to purchase shares of the company, rewarding two groups of shareholders. Those who sell their shares usually get a good price for relinquishing them. Those who keep their shares, in theory at least, see an increase in EPS and hopefully also in price and control.

This paper is an attempt to open a more profound study into this topic. It will try to answer the more fundamental questions

1) How widespread is the practice?
2) What are some of the implications?
3) Are current accounting practices adequate?

2. LITERATURE REVIEW

There is a great deal of literature available on this subject, however a significant portion includes articles from Bloomberg, which is an investors' news service. Bloomberg is naturally inclined to favour anything which will enhance value for investors.

Even academic literature is not free from this type of influence. Columbia Business School publishes Journal of Applied Corporate Finance, which featured an article by the CEO of Fortuna advisors, whose website clearly shows their bias, claiming not only that buybacks were to be encouraged but that they save jobs ands were only a symptom of a larger problem. Regulators, they claim, should do nothing (Milano, Chew, 2019). Milano also opposes short-termism in the market, a sentiment reflected by Roe, who shows that as buybacks increase, corporate borrowing increases (Roe, 2018). He found that 30% of buyouts were financed directly by new debt. Some of the data in the second part of this study support that contention.

Analysis of the reasons, particularly information value, for are examined by Stunda, who gives 5 reasons:

1) Tax efficiency
2) Management flexibility
3) Undervalued stock by investors concerned about the dangers
4) Investment
5) The earnings game

The main idea is to boost the value of the shares, so the market will reward the price. (Stunda, 2017). His findings are reflected in part by Munoz (Munoz, 2017)

However, some writers are concerned with the dangers posed by share buybacks (Lazonick, Hopkins 2020; Cooper et al 2018; Barenbaum, Schubert 2018; Fox 2020) including an article in Atlantic taking a dim view of the practice (Useem, 2019). Some are concerned about who calls for buybacks, for example families concerned (Van Dalsem, 2019), and insiders (Griffin, Zhu, 2010).

The literature shows there is no clear consensus on the subject of buyouts, however their increasing popularity , with Treasury and Risk announcing a record high in buybacks (T&R, June 4, 2020) and others calling for a review of accounting procedures (Hecht, 2018). It is time to take a closer look at the situation overall and decide how accounting can sort through the registration and recording of this activity.

3. METHODOLOGY

The original methodology was to find the differences in balances of treasury stocks at 5-year intervals. This is almost impossible, as each company reports its equity accounts differently, and some do not seem to expose the amounts. Most will only reveal buybacks in the current year. The plan was adapted to this reality to show buybacks for two periods five years apart to determine if the trend seems to have accelerated, and to determine in which sectors the practice of buyback is most prevalent. The 75 largest stocks on the S&P 500 from five years ago were taken and repurchases or buybacks were determined using the five-year interval (2014–19).

4. RESULTS

Before discussing the information retrieved, it should be noted that this information in many cases was not made easily retrievable from the 10-Ks. The figures show that this an activity which is increasing and will have growing impact in many ways. Buybacks can affect the balance sheet, for example, by decreasing the Shareholder's equity thereby potentially affecting the Debt/Equity Ratio.

Table 1. Negative equity

Company Name	Buyback	Equity
The Boeing Co.	2,651	- 8,300
McDonald's Corp.	4,981	- 8,210
AbbVie, Inc.	12,215	- 8,142
Starbucks Corp.	10,131	- 6,231
The Home Depot, Inc.	7,000	- 3,116
Total	36,978	

Five companies – The Boeing Company, McDonald's Corp., AbbVie, Inc., Starbucks Corp. and The Home Depot, Inc. have buybacks which either created or contributed to greater negative equity. These companies account for $37 Billion in buybacks, which is almost 10% of the total buybacks studied for 2019.

Table 2. Comparison of 10-K Buyback information 2014 and 2019 (Buyback figures in $millions)

Sector	Buybacks - 2014	Buybacks - 2019	Percent increase	Pctage of total -2014	Pctage of total -2019
Communication Services	10,384	12,266	18.12%	5.31%	3.21%
Consumer Discretionary	11,891	33,658	183.05%	6.08%	8.81%
Consumer Staples	10,309	15,635	51.66%	5.27%	4.09%
Energy	-	4,039	0.00%	0.00%	1.06%
Financials	17,729	86,258	386.54%	9.06%	22.59%
Health Care	39,892	52,520	31.66%	20.38%	13.75%
Industrials	8,419	9,783	16.20%	4.30%	2.56%
Information Technology	97,093	167,669	72.69%	49.61%	43.91%
Real Estate	-	20	0.00%	0.00%	0.01%
Utilities	-	-	0.00%	0.00%	0.00%
Grand Total	195,717	381,848	95.10%	100.00%	100.00%

Table 2 shows the results of the comparison. Buybacks have almost doubled between the two years suggesting that buybacks are increasing in volume. In 2014, 70% of the buybacks were between Information Technology (50%) and Healthcare (20%). By 2019, 67% of the buybacks were between Information Technology (44%) and Financials (23%). By contrast, Real Estate and Utilities as sectors do not participate in buybacks. Utilities are traditionally a very conservative sector, and Real Estate is dominated by REITS, which are impacted by "noise" in the real estate and investment markets, which generally tend to play off against each other.

Table 3. Information Technology – w/ Shareholders' Equity

Company	Buybacks - 2014	Buybacks - 2019	Sh Equity - 2014	Sh Equity - 2019	% SE 2014	% SE 2019
QUALCOMM, Inc.	11,246	1,793	31,414	4,909	35.80%	36.52%
Mastercard, Inc.	3,424	6,463	6,824	5,917	50.18%	109.23%
Texas Instruments Incorporated	2,831	2,960	1,741	8,907	162.61%	33.23%
Adobe, Inc.	600	2,750	6,776	10,530	8.85%	26.12%
NVIDIA Corp.	814	-	4,418	12,204	18.42%	0.00%
Oracle Corp.	8,088	19,200	49,098	12,717	16.47%	150.98%
Accenture Plc	2,274	2,669	6,648	14,828	34.21%	18.00%
PayPal Holdings, Inc.	-	1,406	8,248	16,929	0.00%	8.31%
International Business Machines Corp.	85	19	12,014	20,841	0.71%	0.09%
Broadcom, Inc.	12	5,435	10,491	24,941	0.11%	21.79%
Cisco Systems, Inc.	4,234	20,577	59,707	33,571	7.09%	61.29%
salesforce.com, inc.	-	-	3,975	33,885	0.00%	0.00%
Visa, Inc.	5,365	8,607	27,413	34,684	19.57%	24.82%
Intel Corp.	10,792	13,565	55,865	77,504	19.32%	17.50%
Microsoft Corp.	2,328	15,346	89,784	82,718	2.59%	18.55%
Apple, Inc.	45,000	66,879	111,547	90,488	40.34%	73.91%
Total	97,093	167,669	485,963	485,573	19.98%	34.53%

Information Technology has been a growing sector for many years. This has made it very attractive to investors, but also to controlling interests. Perhaps the most famous case here is that of Oracle. Icon Larry Ellison in late 2019 put out a call for buybacks of $75 billion. This would require floating a bond issue, which lowered the Fitch bond rating of Oracle form A+ to A and S&P from AA- to A+. (CNBC – Dec. 6. 2019). This is appears to be Ellison seeking greater control over Oracle by reducing the number of stocks in circulation thereby increasing his share of the business. Apple, which just crossed the $2 trillion threshold for market capitalization, is also being consolidated into the hands of fewer entities. The top 3 institutional entities owning Apple shares are Vanguard (7.8%), Blackrock (6.3%) and Berkshire Hathaway (5.7%). This is a matter of public record. If large portions of existing shares can be retired (Apple is sitting on about $300 billion in cash), it could result in a significant consolidation.

On the table, in this sector, we can also see that buybacks are a growing method of financial management going from about 20% of shareholders' equity to 34.5% in just five years. This is the most active sector for this type of activity.

Some specific situations worth mentioning include companies like Walmart. In a period of two decades, The Walmart Foundation has seen its share of ownership increase from 33% to 53% though buybacks. The company engaged in acquisitions, and at the same time bought back shares of the parent, eventually assuming control. (Brown, 2018). Today the six heirs to the Walton fortune have a net worth equal to the wealth of the bottom third of American society (Stiglitz, 2012).

Another inference from the statistics shown is that a consequence of the buybacks is overall lack of growth of shareholders' equity. The total amount seems to remain stagnant. This is in spite of the growth in the market.

Table 4. 5-year comparison of Information Technologies with S&P 500

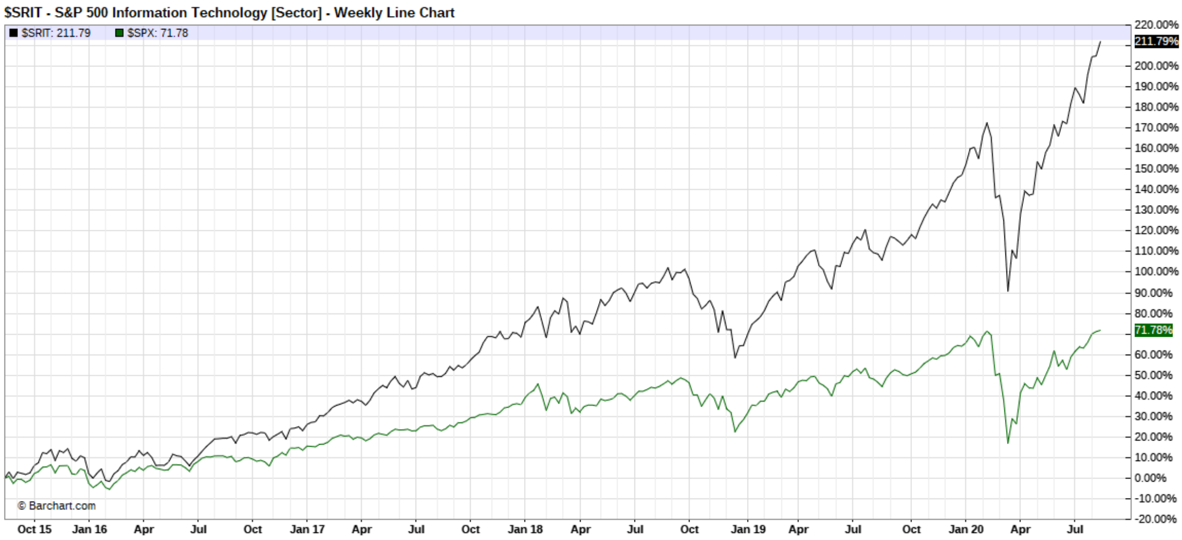
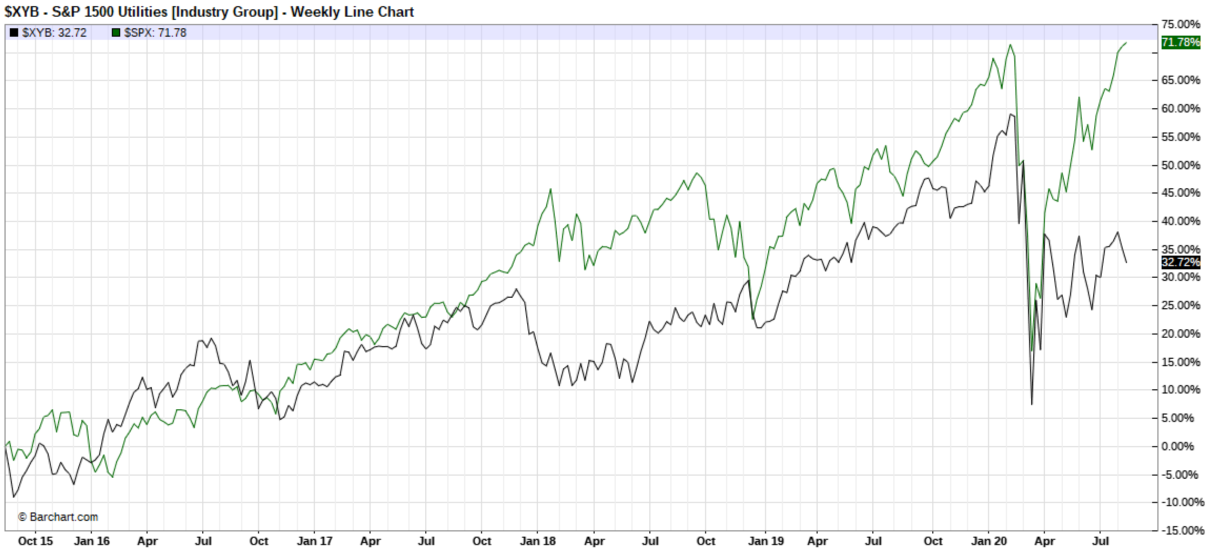


Table 4 shows how Information Technology shares have taken off (212%) compared with the S&P 500 (72%). This increases the cost of share buybacks, but also makes them more valuable once they have taken place. The chart is a testament to the effectiveness of this strategy. There are of course many factors which affect the value of a given set of stocks, but obviously the buybacks have not harmed the sector's return overall.

Table 5. 5-year comparison of Utilities with S&P 500



If we look at the Utilities sector, which does not significantly participate in buybacks, we see a stark contrast. Technologies, as a sector, was almost 7 times more profitable for investors over that period. Utilities have been popular with pension funds for many years because of several characteristics. As an investment, most utilities have an almost guaranteed cash flow. Users pay monthly, and profits, while not prolific, are constant and generally reliable. Some funds use utilities as a safety harbour when the market goes bad, which is why they will often outperform in a sour market. The other characteristic which makes them interesting to conservative investors is that they typically pay regular dividends, which means that they are not only an investment but a source of cash flow, often limited, for pension funds which require some degree of liquidity to make payments to retirees.

An important question regards who decides the timing and amount of the buyback. Palladino (2020) has conducted a study wherein he shows that corporate insiders – the executives who approve the buyback – tend to use the buyback offer as a time to sell their stocks. A dynamic often overlooked is that when a buyback offer is made public, the price of the stock tends toward the level of the offer. Usually, to be effective, it must be above market price. This means that insiders can benefit with the timing of the offer.

This last point was underlined by a lawsuit brought against Mark Zuckerberg by the Michiana Area Electrical Workers' Pension Fund. Zuckerberg is both CEO and the largest shareholder in Facebook looking to liquidate 75 million shares. He allegedly convinced the Board of Facebook to approve a $28 billion buyback, well in excess of any previously accepted buyback, which Zuckerberg and other company insiders took advantage of. In this case, the insiders were guaranteed a price and would not have to wait to liquidate holdings. (AiCIO News. June 2020).

The final issue is accounting practices. IFRS Standard 10 – Consolidated Financial Statements might have addressed this issue, but it does not. The standard is concerned how a controlling entity shows its financial interest in entities it controls. The standard, though it could address the issue at least tangentially, does not raise the issue.

Buybacks would normally appear in the Statement of Shareholder's Equity, which has various names, and in fact is not always in the Financial Statements. Format and style, in reviewing the 10-Ks of the 75 companies in this survey, show that there is a great deal of variety in the presentation of this set of items.

Bristol-Myers Squib, for example, does not even have a Statement of Shareholder's Equity, but instead includes it on the Balance Sheet.

	December 31, 2019	December 31, 2018
EQUITY		
Bristol-Myers Squibb Company Shareholders' Equity:		
Preferred stock, $2 convertible series, par value $1 per share: Authorized 10 million shares; issued and outstanding 3,568 in 2019 and 3,590 in 2018, liquidation value of $50 per share	—	—
Common stock, par value of $0.10 per share: Authorized 4.5 billion shares; 2.9 billion issued in 2019 and 2.2 billion issued in 2018	292	221
Capital in excess of par value of stock	43,709	2,081
Accumulated other comprehensive loss	(1,520)	(2,762)
Retained earnings	34,474	34,065
Less cost of treasury stock — 672 million common shares in 2019 and 576 million common shares in 2018	(25,357)	(19,574)
Total Bristol-Myers Squibb Company Shareholders' Equity	51,598	14,031
Noncontrolling interest	100	96
Total Equity	51,698	14,127
Total Liabilities and Equity	$ 129,944	$ 34,986

The repurchase is shown on the Cash Flow Statement

	Year Ended December 31, 2019	2018	2017
Cash Flows From Financing Activities:			
Short-term debt obligations, net	131	(543)	727
Issuance of long-term debt	26,778	—	1,488
Repayment of long-term debt	(9,256)	(5)	(1,224)
Repurchase of common stock	(7,300)	(320)	(2,469)
Dividends	(2,679)	(2,613)	(2,577)
Other	(53)	(54)	(22)

It is completely different from the Statement of Shareholder's Equity in Apple

Apple Inc.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In millions, except per share amounts)

	Years ended September 28, 2019	September 29, 2018	September 30, 2017
Total shareholders' equity, beginning balances	$ 107,147	$ 134,047	$ 128,249
Common stock and additional paid-in capital:			
Beginning balances	40,201	35,867	31,251
Common stock issued	781	669	555
Common stock withheld related to net share settlement of equity awards	(2,002)	(1,778)	(1,468)
Share-based compensation	6,194	5,443	4,909
Tax benefit from equity awards, including transfer pricing adjustments	—	—	620
Ending balances	45,174	40,201	35,867
Retained earnings:			
Beginning balances	70,400	98,330	96,364
Net income	55,256	59,531	48,351
Dividends and dividend equivalents declared	(14,129)	(13,735)	(12,803)
Common stock withheld related to net share settlement of equity awards	(1,029)	(948)	(581)
Common stock repurchased	(67,101)	(73,056)	(33,001)
Cumulative effects of changes in accounting principles	2,501	278	—
Ending balances	45,898	70,400	98,330

There are many variations on this. The information is provided in the interests of full disclosure but is not necessarily openly available. Further, thee nomenclature is not the same throughout, various called "increase in Treasury stock", "repurchase of stock", "share buyback". Some statements will only give the number of shares repurchased on the Shareholder's Equity Statement and the amount the Cash Flow Statement.

Clearly accounting practices lack guidance, clarity and consistence.

5. CONCLUSION

Three questions were asked at the beginning of this paper:

1) How widespread is the practice?

The practice is increasing in popularity, though it seems to be more prevalent in certain sectors. We showed that Information Technology is by far the most active sector, though Financials are also quite active. Sectors such as Utilities and Real Estate do not seem to be active.

2) What are the implications?

There are many implications. Buybacks affect stock prices but seem to be used by insiders to manipulate both price control and internal control of the companies. Institutional ownership, hedge fund players, and particularly the advent of index funds, which passively retain large reservoirs of stocks, make the pool of active stocks in play smaller, enhancing the power (and possibly price advantage) of owners who retain shares. Index funds now own as large portion of the market as active shares according to Morningstar. (Cox, 2019).

A further implication is that it can, it some cases liquidate shareholders' equity. This is a possibility when certain key shareholders wish to take money out of an enterprise and leave others absorb the consequences. Home Depot is a possible example.

3) Are current accounting practices adequate?

The current practices seem to allow buybacks to be somewhat obfuscated. Because buybacks are not reported in a consistent and easily readable way in some cases, this active is put on a back burner even while it has become a major tool to affect prices and control.

6. RECOMMENDATIONS

Statement of Shareholders' Equity should become mandatory and should include repurchase of stock. Insiders who have been able to take advantage of stock repurchase should, at minimum, be mentioned in the notes. Repurchase prices should also be compared to prevailing market prices at the time the offer is made.

7. FINAL WORD

A central role of accounting is to provide transparency. It must allow shareholders and the public an opportunity to find, in an understandable format, what is happening in a corporation which may impact on their lives. We continuously encounter new phenomena which shift the sands under our feet. The responsible reaction to such events is to adapt. Accounting as a discipline has done this in the past but has sometimes been forced by regulators to act. Buybacks are, arguably, a small piece of the complicated juggernaut that we call "the markets". We must remember that the arcane secondary mortgage market was also a small piece of the same juggernaut. Not paying attention to it was a costly oversight we all paid for. Let us not be so sure of its insignificance this time.

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DOES THE COUNTRY´S INDEBTEDNESS HAVE ITS LIMITS?

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Abstract
Government debt has significantly exceeded GDP in some cases for several years, while limits set by the Maastricht criteria in the Eurozone seem to only be treated as theoretical numbers. Further, massive public debt created by Japan in recent decades and debt created by the credit crisis in the USA have both exceeded forecasts. Even more so, consequences of government fiscal policy measures taken during the COVID 19 crisis have led to speculation about impact. Numbers concerning public debt lead to the conclusion that government debt has no limits. By analysing key indicators used to measure government debt for twenty-four countries, this paper proved that there are no general ratios applicable to all countries at any given time. The public indebtedness "one size fits all" approach not only does not work but may precipitate dangerous consequences. Each country has its individual culture, economy and political system which can have positive or negative consequences regarding high indebtedness. Governments must be free of bureaucratic guidelines and should be able to follow general economic principles based on cost-benefit analysis to look to marginal benefits when considering increases in deficits (and as a consequence total debt).

Keywords: *government debt, government debt-to-GDP ratio, internal and foreign debt, government budget deficit, credit crisis, bond market*

1. INTRODUCTION

1.1 Four alarming facts in government finance

A. Corrected deficit CR in 2020

In autumn, 2019, the Parliament of the Czech Republic approved a deficit for the year 2020 of 40 bil. CZK. after long debate. The amount was criticized by opposition parties as too high and being a heavy burden for next generation.

In July 2020, the Parliament approved an increase to the deficit for the same year to 500 bil. CZK. The government thinks that in the end it will be even higher. In September 2020 the parliament backed a government proposal to pay all seniors a supplementary bonus of 5,000 CZK, resulting in an addition of 14 bil. CZK to the deficit.

The reason for increasing the government budget deficit is due to a sharp decrease in revenues caused by COVID 19.

B. Maastricht criteria and the reality in the Eurozone

In order to adopt the euro, EU countries wishing to join the Eurozone were required to bring national legislation in line with relevant law and meet specific conditions designed to ensure economic convergence. These requirements, agreed by the EU Member States in Maastricht in February, 1992, are known as the convergence criteria[1]. Among the five main criteria, two are related to public finance, namely:

- *Government budget deficit*: The ratio of the annual general government deficit relative to gross domestic product (GDP) at market prices, must not exceed 3% at the end of the preceding fiscal year (based on mutually reliable data) and for neither of the two subsequent years.
- *Government debt-to-GDP ratio*: The ratio of gross government debt (measured at its nominal value outstanding at the end of the year, and consolidated between and within the sectors of general government) to GDP at market prices, must not exceed 60% at the end of the preceding fiscal year.

Table 1. General government deficit and debt in EU, % of GDP, 2019

	General government deficit Total, % of GDP, 2019	Debt to GDP ratio, 2019 [%]
Austria	0.7	87.2
Belgium	-1.9	116.9
Estonia	-0.3	12.8
Finland	-1.1	69.7
France	-3	120.9
Germany	1.4	69.1
Greece	1.5	195.5
Ireland	0.4	75.2
Italy	-1.6	147.0
Latvia	-0.2	43.5
Lithuania	0.3	38.8
Netherlands	1.7	62.8
Portugal	0.2	137.1
Slovak Republic	-1.3	63.3
Slovenia	0.5	81.4
Spain	-2.8	117.3

Source: Authors' work based on data from the source below:
https://data.oecd.org/gga/general-government-deficit.htm#indicator-chart

Deficits in 2019 met the Maastricht criterion, with surpluses in eight countries, something not too common in recent decades. But when we focus on debt, we see that the limit is breached in

[1] https://ec.europa.eu/info/business-economy-euro/euro-area/enlargement-euro-area/convergence-criteria-joining_en

all but 3 countries (Estonia, Latvia and Lithuania).[2] Four countries exceed 120% (double the limit). There are no serious penalties for these breeches. What might they be? Are the criteria even realistic currently?

1.2 Definitions of key terms

Confusion in the terminology in the field of public finance may cause misunderstanding of conclusions. Definitions of terms in this paper are as follows:

Government debt

The OECD definition of government debt is as follows:
General government "debt is calculated as the sum of the following liability categories (as applicable): currency and deposits; debt securities, loans; insurance, pensions and standardised guarantee schemes, and other accounts payable"[3].

Public debt

The IMF covers this a bit more extensively, and includes "general government (budgetary central government, state government, local government, extrabudgetary units, and social security funds) public nonfinancial corporations, and public financial corporations including the central bank.[4]

Internal and foreign debt

The European Central Bank (ECB) tracks the external debts of its members and considers it to be the actual outstanding (as opposed to contingent) liabilities at a point in time, which must be paid back to a foreign entity, either governmental or private. This may entail payment of principal and or interest in payments or in a single lump sum[5]. Payments might be required in another currency, which may entail currency translation risks.

Other risks might include exposure to manipulation. The Chinese own an estimated $1.18 trillion in US debt as of January this year – about the same as the Japanese, according to the U.S. Treasury. In 2010, Outlook, a monthly magazine belonging to the People's Liberation Army, contained an editorial encouraging the Chinese government to dump American bonds on the market to punish the U.S. for selling arms to Taiwan. This would have precipitated a sharp decline in the US dollar on international markets.

Internal debt is owned to internal entities, corporations, individuals and other organizations, who are domiciled within the country.

2. BUDGET DEFICIT AND GOVERNMENT DEBT

2.1 Relation of two core indicators

A budget deficit or surplus is a flow variable equal to the difference between government receipts and spending over a given period (usually years, quarters, sometimes months). Higher revenues than expenditures in the period means a surplus and higher expenditures than revenues mean a deficit. A debt is a stock variable measured at a specific point in time and accumulates all prior deficits minus accumulated receipt of funds. Government budget deficits in principal increase the level of debt.

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[2] The Czech Republic, at about 30%, would be in fourth place if it were in the Eurozone.
[3] https://data.oecd.org/gga/general-government-debt.htm
[4] International Monetary Fund, *Public Sector Debt Definitions and Reporting in Low-Income Developing Countries,* January, 2020.
[5] https://www.ecb.europa.eu/stats/balance_of_payments_and_external/external_debt/html/index.en.html

2.2 Assessment of the budget deficit and government debt values

To evaluate the budget deficit or government debt of a particular country in a particular year (quarter, month) is not a simple task. The amount, either as an absolute value or related to different indicators does not fairly indicate the impact of either factor on the economy of a country. The following questions should be considered:

- Should government budgets be small or large? Many claim it to be a redistribution of monetary resources – this is more a political question.
- Should government budgets always be balanced – deficits increase debt which is sometimes seen as evil? The real question is "How is it even possible for a government to balance its budget given that it is often a service provider of last resort?"
- Does the business cycle impact government debt?
- Is there a universal upper limit to government debt?

Budget deficits and government debt in in any given country are not just economic issues. They cannot be limited to interpretation of economic indicators. Many other characteristics matter:

- Historical, geographical and other main characteristics of the country.
- Global political and economic situation.
- Business cycle phase and probable change from "up" to "down" of main partners in foreign trade and capital flow.

2.3 Method and Methodology

In the following section, we compare the GDP and Government Debt data for 24 companies based largely on statistical data from the OECD, which is a reliable source of data of this kind. We show how the data can be interpreted in two different ways, and how it is possible to come to different conclusions

3. GOVERNMENT DEBT IN NUMBERS

To assess the impact of government debt on a national economy (and standard of living of its citizens), both contemporary and historical indicators are used by economic consultancies, international organizations and statistical institutions when they analyze economic parameters of a country and compare indicators in time series. The following are some of the main indicators used:

3.1 Government debt as a percentage of GDP

This indicator is believed to measure a country's ability to pay off its debt and indicates the effect such debt might have on the national economy. The measure of proportionality, both relative and absolute of government debt to ability to produce are considered strong indicators.

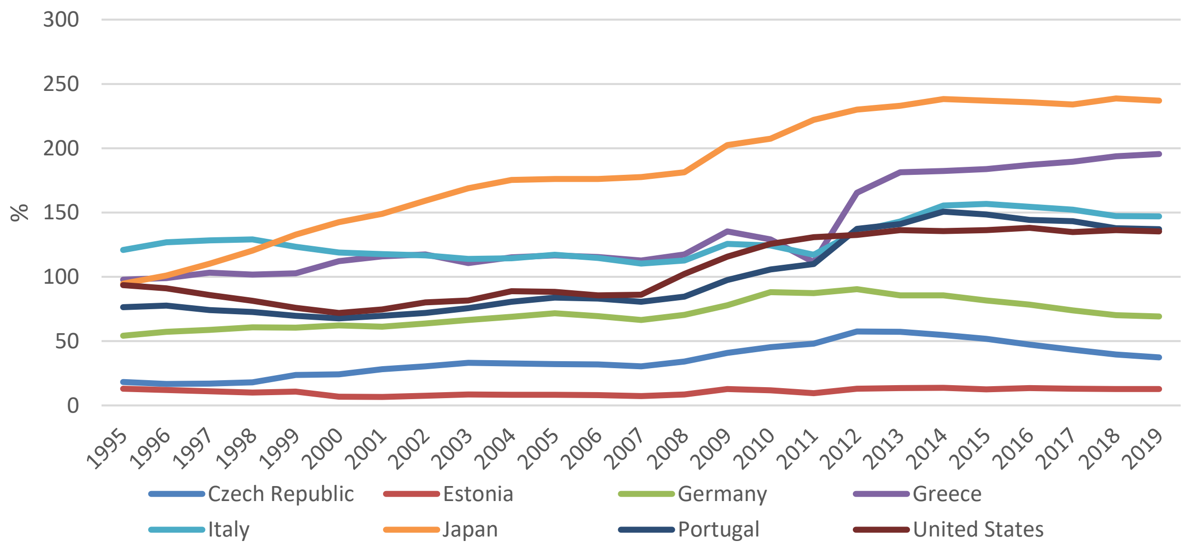
Table 2. General Government Debt of selected countries, total, % of GDP, 1995–2019

	1995	2000	2005	2010	2015	2016	2017	2018	2019
Austria	69,2	71,0	76,3	90,5	101,3	101,5	95,1	89,8	87,2*
Belgium	139,3	121,7	109,0	108,7	126,2	127,6	120,7	118,1	116,9*
Czech Republic	18,1	24,3	32,2	45,2	51,7	47,4	43,3	39,5	37,4*
Denmark	81,6	60,5	45,1	53,4	53,4	51,4	49,1	47,8	46,6*
Estonia	12,9	6,8	8,3	11,8	12,6	13,5	13,0	12,7	12,8*
Finland	62,9	50,9	46,4	54,8	75,2	75,6	73,2	69,8	69,7
France	67,3	72,4	82,1	101,0	120,8	123,7	122,7	121,7	120,9*
Germany	54,2	62,1	71,6	88,0	81,5	78,5	73,9	70,1	69,1
Greece	97,8	112,3	116,7	129,1	183,7	187,0	189,5	193,7	195,5
Hungary	87,5	61,6	67,7	86,7	99,3	99,5	94,0	87,9	84,5
Ireland	…	38,7	31,3	83,5	88,4	84,7	76,5	75,2	75,2*
Italy	120,8	118,8	117,1	124,4	156,7	154,5	152,1	147,3	147,0*
Japan	94,7	142,6	176,0	207,3	237,1	235,8	234,0	238,7	237,0*
Latvia	15,2	14,5	14,5	50,7	44,2	48,2	45,2	43,7	43,5*
Lithuania	13,2	34,4	24,9	45,6	53,5	51,1	47,3	41,1	38,8*
Netherlands	85,4	62,1	59,2	69,5	79,5	77,5	70,8	65,6	62.8*
Poland	50,4	45,0	54,7	61,2	70,1	73,0	68,6	66,7	63,6
Portugal	76,4	67,7	83,9	105,7	148,4	144,3	143,2	137,9	137,1
Slovak Republic	37,5	59,4	41,6	50,4	66,2	67,7	65,7	63,6	63,3
Slovenia	32,9	34,3	34,5	47,9	102,4	97,4	89,0	83,2	81,4
Spain	68,2	65,5	50,5	67,4	117,1	117,3	115,8	114,7	117,3
Sweden	76,8	64,2	65,5	53,4	62,3	61,7	59,9	58,9	55,6
United Kingdom	53,5	49,4	52,2	89,7	112,8	122,5	119,9	116,6	115,8*
United States	93,5	71,9	88,4	125,7	136,4	138,1	134,8	136,3	135,3

*authors´ estimate

Source: Authors´ work based on data from the source below:
https://data.oecd.org/gga/general-government-debt.htm

Figure 1. Government debt to GDP, selected countries, in %, 1995–2019



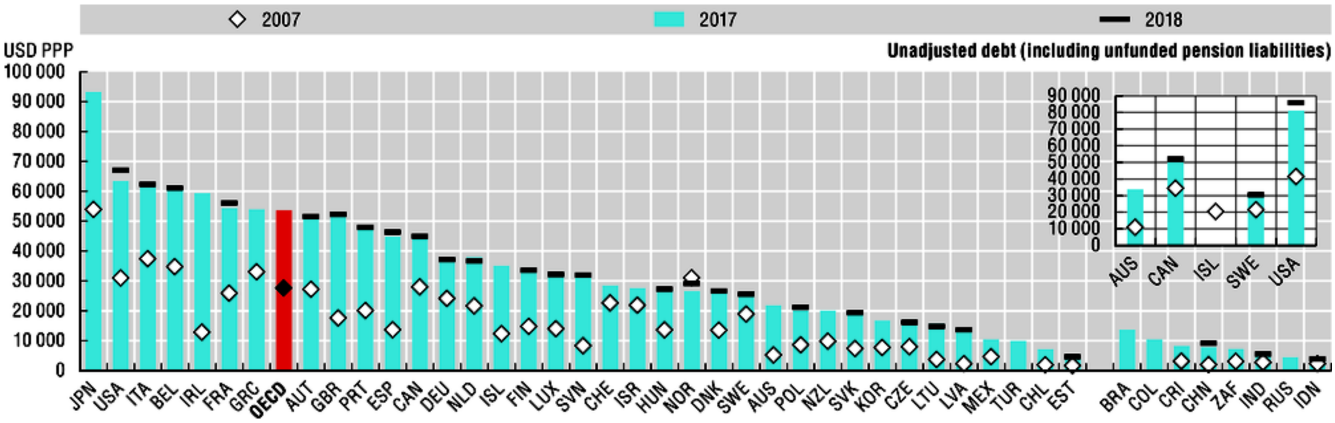
Source: Authors´ work based on data from the source below:
https://data.oecd.org/gga/general-government-debt.htm

It is clear from these numbers that Japan has by far the highest level of debt compared to GDP. It should follow that we would see cutbacks in government programs and high unemployment. However, the OECD reports that at the end of 2018 only 2.44% of the Japanese work force was unemployed. GDP growth has been sluggish – according to the OECD, PPP-adjusted growth has been .32% and .65% for 2018 and 2018 respectively. While hardly stellar, it is not disastrous. The hidden part of the narrative is that the Bank of Japan has actually resorted to using negative interest rates in recent years to encourage lending.

This approach shows that Gross Domestic Product is not a reliable measure of total national output. Further, national debt is not repaid from GDP, but with tax revenues (although there is a correlation between these two indicators)[6].

3.2 Government debt per capita

Figure 2. General government gross debt per capita in USD (PPP), 2007, 2017 and 2018



Source: https://www.oecd-ilibrary.org/sites/c1ef81be-en/index.html?itemId=/content/component/c1ef81be-en

Numbers in this ratio are simplified and easily understandable and are frequently abused. In election campaigns, they gain voter support for candidates who offer to slash government spending thereby reducing taxes and government waste. Such a simplistic approach does not resonate logically, as individual taxpayers do not remit repayment of the debt equally.

3.3 Government debt and economic growth (comparison of the growth of the government debt and the growth of the GDP)

[6] Comparing the national debt level to GDP is asking to a person comparing the amount of her personal debt in relation to the value of the goods and services that they produce for her employer in a given year. (www.investopedia [5])

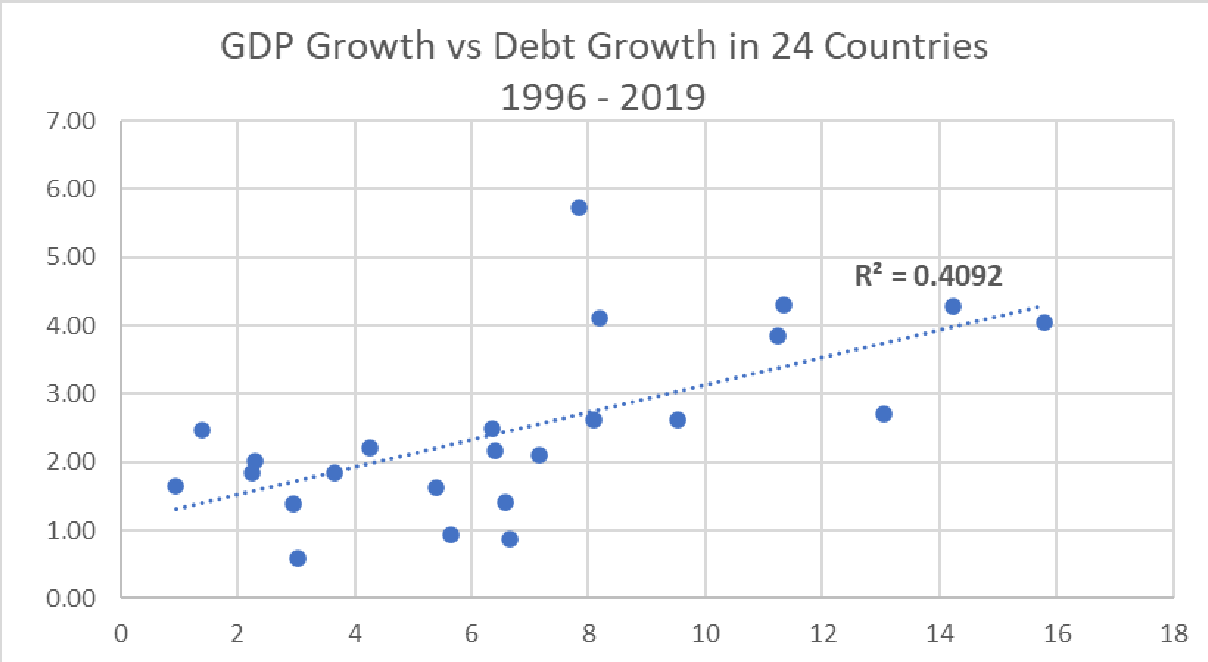
Table 3. Government debt growth in % and GDP growth in % in selected countries, 1995–2019

Year	1995		2005		2015		2017		2019	
Country	**Debt growth**	**GDP growth**	**Debt growth**	**GDP growth**	**Debt growth**	**GDP growth**	**Debt growth**	**GDP growth**	**Debt growth**	**GDP growth**
Austria	3.27	2.67	10.39	2.24	4.38	1.01	-2.15	2.48	-1.70	1.61
Belgium	0.03	2.38	2.27	2.32	1.64	2.03	0.55	1.90	1.76	1.40
Czech Republic	-2.25	6.50	4.18	6.60	0.94	5.39	-0.31	5.17	0.24	2.34
Denmark	…	3.03	-10.77	2.34	-7.65	2.34	-0.63	2.04	1.09	2.35
Estonia	21.05	4.53	6.60	9.49	-2.49	1.84	0.14	5.75	8.56	4.33
Finland	3.88	4.22	-2.86	2.78	8.69	0.54	0.73	3.27	2.28	1.15
France	9.92	2.11	5.90	1.66	3.01	1.11	3.20	2.29	2.82	1.51
Germany	6.75	1.54	4.81	0.73	-1.36	1.49	-2.32	2.60	-0.75	0.56
Greece	13.34	2.10	7.37	0.60	-2.47	-0.44	0.79	1.51	-1.09	1.87
Hungary	3.60	1.49	10.07	4.24	5.50	3.85	4.47	4.32	3.60	4.93
Ireland	-2.31	9.63	0.73	5.70	-0.86	25.16	0.32	8.15	-0.89	5.55
Italy	5.61	2.89	4.27	0.82	1.66	0.78	1.92	1.67	1.21	0.30
Japan	-6.78	2.74	-3.21	1.66	0.17	1.22	5.98	2.17	1.37	0.65
Latvia	10.02	..	4.64	10.74	-7.37	3.26	2.67	3.79	3.97	2.20
Lithuania	51.09	..	8.74	7.73	7.10	2.03	7.08	4.25	14.37	3.93
Netherlands	2.07	3.12	3.08	2.05	-2.12	1.96	-4.18	2.91	-2.68	1.68
Poland	11.52	6.95	9.45	3.49	6.46	3.84	-0.28	4.94	0.91	4.15
Portugal	7.85	4.28	12.13	0.78	2.47	1.79	0.79	3.51	0.29	2.17
Slovak Republic	58.15	5.84	-8.97	6.62	1.43	4.82	2.87	3.05	1.99	2.40
Slovenia	35.96	4.11	3.43	3.80	6.18	2.21	0.33	4.83	-1.49	2.44
Spain	12.88	2.76	0.92	3.65	2.95	3.84	3.67	2.89	1.32	1.98
Sweden	3.14	3.94	3.82	2.86	3.72	4.49	0.98	2.57	-5.93	1.19
United Kingdom	5.82	2.53	9.06	3.18	3.82	2.36	3.17	1.89	2.92	1.46
United States	3.40	2.68	6.93	3.51	1.84	3.08	3.44	2.33	5.60	2.16

Source: Authors´ work based on data from the source below:
https://stats.oecd.org/Index.aspx?DataSetCode=QASA_TABLE7PSD#;
https://stats.oecd.org/index.aspx?queryid=60702#

In fact, a trendline using 24 countries from 1996 to 2019 indicates this (see Figure 3). This represents the average GDP growth for each country over the period against debt growth using a standard regression formula. There is an r2 of .41, which is a significant level of correlation. But an analysis of individual countries using the same correlation (Table 4) indices does not confirm this observation. Further, correlation indices in this case cannot be assessed as positive or negative.

Figure 3. GDP Growth vs Debt Growth in 24 Countries 1996–2019



Source: OECD Stats

The data regressed in Table 4[7], however, does not indicate which of the indicators is growing faster. The desired goal is to see GDP grow faster than debt (not to mention that the rate of debt growth against GDP growth may decrease faster). Evidently numbers derived from correlation of government debt and macroeconomic indicators must be individually assessed for specific relations.

Table 4. Correlation of GDP Growth to Debt Growth by Country

Country	Correlation	Country	Correlation	Country	Correlation
Austria	-0.34	Greece	0.29	Poland	0.07
Belgium	-0.47	Hungary	0.34	Portugal	-0.45
Czech Republic	-0.28	Ireland	-0.63	Slovak Republic	-0.19
Denmark	-0.57	Italy	-0.42	Slovenia	-0.66
Estonia	-0.33	Japan	-0.30	Spain	-0.86
Finland	-0.65	Latvia	-0.51	Sweden	-0.29
France	-0.69	Lithuania	-0.53	United Kingdom	-0.69
Germany	-0.08	Netherlands	-0.19	United States	-0.72

Source: OECD

[7] In Table 4 correlation indices were calculated by standard formula:

$$r_{X,Y} = corr(X,Y) = \frac{cov(X,Y)}{\sigma_X.\sigma_Y} = \frac{\sum(x_i-\bar{x})\,(y_i-\bar{y})}{\sqrt{\sum(x_i-\bar{x})^2\sum(y_i-\bar{y})^2}}$$

Where X, Y are examined variables representing GDP growth and debt growth (1995-2019) in selected countries with means $\bar{x}$; $\bar{y}$ and standard deviations σ_X; σ_Y. Correlation index values lie in range

$$r \in \langle -1; 1 \rangle$$

with negative values representing indirect dependence and positive values representing direct dependence. We say, that values close to zero represent independence between examined variables.

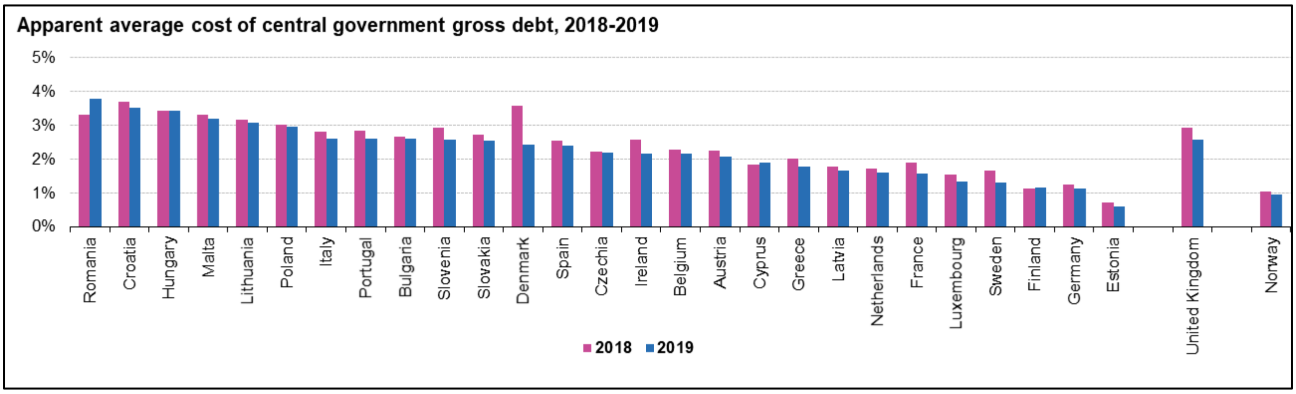
Looking at numbers in Table 4, which takes each of the twenty-four countries individually over the same period, some situations deserve comment:

- Only two of countries in the table actually show positive correlation – Greece and Hungary but the indicators under analysis do not offer identical explanations. During this period, the GDP of Hungary decreased twice and government debt only once. The GDP of Greece was decreased each year from 2008–2016 (with the exception of 2014), while debt grew, with very few exceptions, often in double digits.
- Among all countries with negative correlation, the highest reached was Spain, followed by the USA. In Spain, negative GDP growth in 2009, 2011, 2012, 2013 were years in which government debt grew enormously. In the US, negative GDP growth only happened in 2008 and 2009. Debt even decreased from 1998–2001 and grew at rates similar to Greece in 2008–2010.
- Ireland (correlation -0.63) shows very high volatility compared to all other countries – GDP grew by 25% in 2015 and decreased only in 2008 and 2009. Debt grew by 68% in 2008 and over 30% in 2009–2011.

3.4 Other indicators

Average cost of government debt

Figure 4. Average cost of central government gross debt, in %, in selected countries, 2018–2019



Source: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Apparent_average_cost_of_central_government_gross_debt,_2018-2019.png&oldid=487270

The average cost of government debt is calculated using the interest applicable during the period to the total amount being borrowed. If the period is other than a calendar year, the rate is then annualized.

The structure of National Debt is rather complex. For example, the American government for 2020 will pay $484 billion in interest on its loans[8], which are in the form of bonds and bills. This is almost 11% of the budgetary outlays, or 1.8% of GDP. By comparison, the government budgeted $209 billion for education, and $383 billion for welfare. Interest money is bespoke, which means that it cannot be reduced on the budget and must be paid. These payments acquire nothing going forward for taxpayers. It is rent on money borrowed.

Comparison of interest paid on the national debt to potential expenditures on some government activities to, for example:

- number of schools or hospitals for the amount of interest or money,
- higher pensions for seniors and handicapped people.

[8] https://www.treasurydirect.gov/govt/reports/ir/ir_expense.htm

4. CONSEQUENCES OF GOVERNMENT DEBT

4.1 Application of main economic principles

Cost-benefit principle

The cost-benefit principle[9] should be applied for government activities, much in the way a corporation would do. The definition says that an action should be taken if, and only if, the extra benefit from taking the action is at least as great as the extra cost.“. In reality it is very difficult to assess either costs or benefits (and express values in money) as there are two main complications:

- the horizon,
- opportunity costs.

Marginal values matter

Special attention should be paid to indicators of government deficit and debt with regard to marginal values.

Unlike microeconomics, where MAXIMA (profit) or MINIMA (costs) are the goal, OPTIMA pay for the government macroeconomic policy.

4.2 Factors influencing cost or benefit of government debt with regard to marginal values

Situating the national economy in the business cycle, and tools of fiscal and monetary policy are critical.

Cyclical development of any country is an accepted fact. Ups and downs come with different lengths and amplitude and influence all economic indicators. The cost of interest was discussed above. One of the problems faced by governments is that every year there are bonds that expire. If they do not have sufficient funds to pay out these bonds, they must re-issue a new series which may be at a higher rate.

Inflation

One of the factors in the background is inflation. Inflation works in favour of debtors because yesterday‘s debts are repaid with tomorrow‘s inflated dollars.

Rating of international agencies (credibility of the country)

Credit ratings from agencies such as Moody’s, Abercrombie, and S&P are another factor which can affect the interest rate paid by a government on its debt.

Bond Markets

Government bonds (particularly T-Bonds) are seen as risk free. What this means is that these instruments are widely used to „park“ large sums of money, particularly corporations.

Total amount of the government debt

This amount can be influenced by situations and events completely out of government control. We discussed spending which the US government was forced to make to save the banking system above. This is classically referred to as a „black swan“ – an event which had never happened before and virtually no-one was prepared for.

[9] Frank-Bernanke (2), p. 4.

5. CONCLUSION

There are issues which we have raised in this short paper which obviously could use more detail. However, it seems evident that a number of observations must be commented on.

First, each country has its own culture, economy and political system. Yet, we come across repeated examples of interference by institutions like the ECB and IMF, who seem to have a „one size fits all" approach. The agreement, for example, within the Eurozone was that national debt would not exceed 60% of GDP and deficits would not exceed 3%. The first to violate this were France and Germany in 2004. The Council of Ministers (Finance) wanted to give them a pass, but the ECB wanted the money to be replaced. The two groups, both functioning organs within the EU, effectively wound up suing each other, and matter was referred to a third organ, The European Court of Justice. The decision was that the ECB had the right to demand the replacement of the money. Germany and France said they could only do so by borrowing more.

However. The Greek crisis, wherein it was discovered that debt was hidden „off balance sheet" and the Credit Crisis put paid to the rule. In the case of the Greek crisis, German banks lent money to the Greek government, and simply could not afford a default. The IMF and the ECB, with encouragement from Mrs. Merkel, put together a bail-out of sorts, which allowed the Greek government to pay interest to the German banks. The IMF et al insisted on government austerity placing a target for Debt to GDP on the Greek government. The economy shrank as a result, and the citizenry and small businesses suffered. When the target was not met, the IMF had an answer – more austerity. This led to elections with a government that basically thumbed its nose at the IMF.

Second, this question extends itself even further. In democracies, citizens elect a government to carry out policies that they approve of through election. The ECB is not an elected body, nor for that matter is it part of an elected body. The same is true of the IMF. Yet these institutions apply pressure on governments which can seriously affect the citizenry.

What the bulk of this paper shows, finally, is that attempting to control government debt externally does not work. Further, in extreme and emergency situations, governments must be able to respond, notwithstanding budgetary constraints. This means that forcing governments to respect bureaucratic guidelines is not the way forward. It is incumbent on the international community to use whatever fora are available to discuss this issue intelligently. Future generations depend on it.

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ON THE WAY TO CHANGES IN CSR REPORTING

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Abstract

The objective of the paper is to describe and analyze the relations between the IFRS, Corporate Social Responsibility and CSR Reporting and to discuss the significance of social reports as part of Financial Statements for investors. The paper focuses on the managerial implications of the current state of CSR and CSR reporting system at the level of SMEs. Two important research questions (inter alia) are answered: 1. Which are the future trends of the CSR and CSR reporting practical application? 2. Whether (and how) the IFRS Authorities could improve the content and structure of Social Reports to increase their attractiveness for investors? The author presents a brief case study of TMR, a. s., a Slovak company, to describe and discuss the historical development of the Social Reports during the researched period 2011–2019. The literature review illustrates a vast scope and variety of literature on CSR during the last 5 years. Selected articles are citing ideas of relevant authors that are discussed in the paper. Content and comparative analyses are the preferred research methods and/or tools; the research approach is qualitative. Substantial improvement of the Czech terminology is recommended, as the current terminology (in many cases) is misleading. The author's recommendations are enumerated. Due to the limited scope of the article only selected problems of TMR reporting are discussed. The paper does not deal with the legal aspects of the CSR regulation. The usefulness of a combination of theoretical and practical research and the need for deeper research is accentuated.

Keywords: *content analysis, corporate social responsibility (CSR), corporate social responsibility reports, CSR report quality, CSR reports terminology*

1. INTRODUCTION

At first sight, relations between the IFRS and Corporate Social Responsibility (CSR) seem to be rather undefinable or – better to say – it is not very easy to define them. However, both conceptual frameworks are interconnected. IFRS with its 144 members (*IFRS – Who Uses IFRS Standards?*, 2018) is an influential international regulatory organisation with a great number of regulatory organizations. Its members are bound to follow the IFRS principles, standards and rules. This fact involves the members' obligation to report to IFRS Authorities. Being a part of non-financial reporting (NFR), CSR reporting (also known as "social reporting") is a form of reporting frequently used today. Under the pressure of stakeholders who are becoming deeper aware of CSR standards, it has developed from a voluntary to mandatory business practice. Therefore, it is worthwhile to describe and analyse IFRS/CSR relations taking a holistic approach to be able to understand the power, significance and type of these relations.

This study is important both for theory and practice as well . This paper focuses mainly on the managerial implications of the actual state of CSR reporting. Due to the limited scope of the article, the author presents only a brief case study to illustrate his ideas.

There are many potential approaches to studying the practical use of IFRS and CSR by IFRS member states to find out whether relevant reports on CSR activities correspond to the generally accepted principles, standards and rules or not. Social reports' analyses base on some of the existing CSR theory imply that the obtained results differ. In some cases, especially in case of measuring, social reports with a different theoretical base (methodology, indicators etc.) provide different results.

At present, three dominant CSR theories prevail, namely *The Carroll Theory, The Triple Bottom Line Theory, and The Stakeholder Theory* (Brin & Nehme, 2019). In principle, only the results based on the identical CSR theory are fully comparable. However, in most cases, it is not possible to identify the relevant CSR theory used in social reports, as they are mostly theory-indifferent, i.e. they only have a descriptive character. Such reports are de facto worthless for professional investors.

Social reporting depends on international standards. According to the selection of a certain standard, each social report has to consist of the prescribed elements. If different standards are used, they are incomparable. Besides, investors are used to reading companies´ "Annual Reports", the mandatory element of which is the Social report. Nowadays, for professional investors, low quality of this reporting indicates a warning sign that can't be ignored.

In pursuing their own goals, many other international organisations, e.g. OECD, use their own methodology to analyse social reports of their members. In case that one member (in our paper, see the case of Slovakia below) is simultaneously a member of IFRS, misunderstandings would arise: evidently, the results of such analyses do not coincide with the results of IFRS members' analyses of social reports.

In Section 2. (Literature) selected literature synthesizing the genesis of the researched problem and the knowledge relevant to the fulfilment of the given research purpose is presented. In the following section 3. (Methodology), based on the analysis of the existing information and current state of knowledge, a working hypothesis and three research questions were prepared. The author describes his findings in Section 4. (Results and discussion); discussion of selected results. The main findings are explained in the Conclusion. Majority of presented results are of a qualitative nature; quantitative data are available from other research sources. This paper does not include analyses of legislative questions pertaining to the topic; the author refers only to selected specific legal problems. The analysis of the inner (endogenous) CSR system is not included for technical reasons. The author originally planned to include a comparison of TMT with another similar company in Slovakia, but he came across a number of difficult questions. For example, it would be necessary to characterize the tourist industry and its structure, to discuss the selection of a suitable region (and/or a locality), the role of the tourist industry in the national economy of Slovakia etc. Therefore, the author decided to publish a separate article dealing with these questions in the next future.

2. LITERATURE

The objective of the paper is to describe and characterize the relations between the IFRS, Corporate Social Responsibility (CSR) and CSR Reporting, and to describe and discuss the significance of social reports as part of Financial Statements for investors.

In order to fulfil this task, the author tries to answer the following important questions:
(1) Which are the main topical features and application trends of main CSR agendas?
(2) Whether (and how) the IFRS Authorities could improve the content and structure of Social Reports to increase their attractiveness for investors/stakeholders?

In this chapter, selected sources written by individual authors or groups of authors, official documents of international organizations and/or governments are referred to. The choice of literature serves the purpose to illustrate the vast scope and variety of literature on CSR during the last 5 years.

After 2010, many authors published valuable surveys on the CSR theories and their position and significance in the framework of economic theory.

A debate on the relations between stakeholders´ theory and Corporate Social reliability belongs to discussion supporting the necessity of reformulation of these relations.

According to Civera and Friedman (2020), "the links and overlaps between stakeholder theory and corporate responsibility [..] prove that firms, as united individuals, are not necessarily acting in a self-interested way; the relationships between firms and stakeholders along their value chain might as well be included in the company's full range of responsibilities, beyond the social aspects", and further: "these behaviors are identified with CSR definitions that go beyond mere social responsibility"… "If we think about multi-stakeholder initiatives (MSIs)—private governance mechanisms involving a plurality of stakeholders for coping with the increasing number of social, environmental, and ethical global pressures [..] we look at the higher expression of integration between stakeholder theory and company stakeholder responsibility." (Civera & Freeman, 2020)

The cited authors promised "to develop an explicit conversation about the new thinking on stakeholder relationships and responsibilities around three main pillars of stakeholder theory and integrated company stakeholder responsibility in order to underline how carrying on such new thinking can lead to a new narrative for both business and stakeholders. The three pillars of discussion are the following: (a) contesting the separation thesis; (b) adopting the perspective of continuous engagement and joint value creation; and (c) reconfiguring multi-stakeholder relationships and responsibilities using creative imagination (Civera & Freeman, 2020)." This citation is an example of academic discussions without any interest to solve practical problems.

The article published by Garriga and Melé (2004) belongs to very successful review articles of the previously existing literature on CSR. This article tried to clarify the situation, "mapping the territory" by classifying the main CSR theories and related approaches in four groups: (1) *instrumental theories*, in which the corporation is seen as the only instrument for wealth creation, and its social activities are the only means to achieve economic results; (2) *political theories* which concern the power of corporations in society and the responsible use of this power in the political arena; (3) *integrative theories*, in which the corporation is focused on the satisfaction of social demands; and, it operates based on ethical responsibilities of corporations to society. In practice, *each CSR theory presents four dimensions related to profits, political performance, social demands and ethical values* (underlined by the author). The findings suggest the necessity to develop a new theory on the business and society relationship, which should integrate these four dimensions (Garriga & Melé, 2004).

Majority of the business literature on CSR content and CSR reporting is much more understandable.

According to the company Bizfluent, key aspects of social responsibility are the following: ethical, legal, economic, and philanthropic aspects. "Businesses that have CSR policies first ensure they are accountable to themselves, their shareholders and their employees. In addition, they hold themselves accountable to their customers and the world around them (Bean-Mellinger, 2018)". According to Barbara Bean-Meellinger (2018), there are four levels of social responsibility: 1. economic, 2. legal, 3. ethical, and 4. philanthropic.

According to the views of David Sarokin from the American Company CHRON, company actions should be affected by 5 dimensions: environmental, social, economic, stakeholders and volunteerism. (Sarokin, 2020).

In his blog, quoting Crane et al. (2019) Raoul de Boer (2020) wrote: CSR is a concept that brings together many aspects of an organization strategy that can be used as guidance for a better society. Crane at el. describe six core characteristics of CSR as followed; (1) voluntary activities that go beyond those prescribed by law, (2) internalizing or managing externalities, for example, a reduction on pollution, (3) multiple stakeholder orientation and not only focusing on shareholders, (4) alignment of social and economic responsibilities to maximize the profitability, (5) practices and values about "why they do it" and the last element (6) mentioning that CSR is more than philanthropy alone.

Education literature is getting more and more popular and demanded. However, one of the best manuals about CSR published Boston College:" *How to read CSR Report – Users´Manual* (BOSTON College – Center for Corporate Citizenship, 2010)." Leading authors were Steve Lydenberg and David Wood

The content of the article is very inspiring: 1. What is CSR reporting, who does it and why is it important? 2. Who reads CSR reports? 3. What makes for high quality, thorough CSR reporting? 4. Reading a CSR report: key elements. 5. Reading the report: stakeholder data. 6. Certification, awards and partnerships. 7. Systems for reporting, evaluation reports, innovation in CSR reporting. 8. Bibliography.

According to Timothy MacClimon, CSR trends of the year 2019, i.e. better dialogue, more learning, more disaster prevention, greater equity and the growing importance of Generation Z-ers will be still valid in 2020 as well. In addition to these trends, he identified 5 new trends:

1. *Searching for the truth:* "While corporate transparency and disclosure have long been expected by stakeholders, they are no longer good enough. Corporate stakeholders are not only searching for the truth, but demanding it as a requirement for doing business. Expect to see more emphasis placed on external and third-party auditors and reviewers who will be hired to verify the information being shared by companies as both transparent and accurate."
2. *Achieving carbon neutrality:* "While many companies have made great strides in reducing their carbon emissions and waste, simply reducing the environmental impact of corporate operations is not enough; now, stakeholders are demanding that companies eliminate them all together. More companies are using renewable energy and carbon offsets to achieve carbon neutrality (which should be independently verified), and the idea of "zero waste" is becoming commonplace in the workplace. "More companies will be moving quickly to carbon neutrality and making greater strides toward zero waste in the coming year.
3. *Standing with employees:* "Stakeholders, including employees, expect to see more corporate leaders prodded into participating in local and global public policy debates and being held accountable for their actions (or inaction) by their employees."
4. *Pursuing purpose over passion:* "While passion remains critical for leadership of companies and civic organizations alike, there's a growing recognition that passions are sometimes fleeting, but purpose can be enduring. The movement toward creating corporate purpose as a way of inspiring employees and engaging customers is a recognition that purpose can be a long-lasting, and geographically agnostic, guiding force behind a company's operations and its social responsibility. Expect to see almost universal embracing of purpose as a non-negotiable part of any company's public portfolio."
5. *Looking for the next big thing:* "Many investors and insiders tout the idea of Environmental, Social and Governance (ESG) reporting and "Shared Value," but these concepts may seem too academic to the average consumer or employee (McClimon, 2020)."

Marc De Courcey (2020) (Senior Vice President of the U.S. Chamber of Commerce Foundation Citizenship Center and Head of its Corporate Citizenship Center) in his article about top CSR trends in 2020 gives a survey of views of 4 global CSR leaders – Hugh Welsh (Hugh Welsh (President and General Counsel, DSM North America), Sylvia Bartley (Senior Global Director, Medtronic Foundation), Balaji Ganapathy (Global Head, CSR and Chief Social Responsibility Officer for Tata Consultancy Services) and Daniela Foster (VP and Global Head of Public Affairs and Sustainability, Consumer Head, Bayer). Every leader had to select two priority issues.

Hugh Welsh emphasized that "2020 will see an acceleration in the evolution of the role of CSR from a compliance or public relations function to one clearly aligned with the organization's strategy…. Another area of change will focus on whether companies use their considerable clout to not only create competitive advantage but also social good, aligning their CSR and "purpose" initiatives with their government affairs, investor relations, and human resources activities."

Sylvia Bartley commented on two big issues. First, the question of data: "Having a CSR strategy in place with definable measurable outcomes is becoming a must-have for corporations." Second: "Impact philanthropy is the emerging trend for the future."

Balaji Ganapathy criticized the volunteer programs: "Companies will reimagine employee volunteer programs to be strategic, curated, personalized, and purpose-aligned: employees expecting—if not demanding—that their employers help fulfil their broader purpose." Another important challenge: "CSR leaders will integrate technology and human-centered design to leapfrog social innovation".

Daniela Foster laid stress on the executives´ remuneration: "Executive Pay will have to be tied to progress made on environmental and social impact metrics will put sustainability at the heart of business strategy and operations. It will also require tangible, auditable progress for bold goals, helping to drive transparency around how deeply commitments are embedded into a business." According to her view, capitalism continues to evolve: "The 2020s will bring a decade of transition as consumers, governments, and citizens require companies to revamp traditional business models and account for natural capital and social capital hand-in-hand with financial performance (DeCourcey, 2020)."

3. METHODOLOGY

The objective of the paper is to describe and characterize the relations between the IFRS and Social Reporting (reporting on CSR) and to describe and discuss the significance of social reports as part of Financial Statements for investors.

To be able to fulfil this task the author tries to answer the following questions:
(1) What are the main topical features and application trends of the main CSR theories?
(2) Whether (and how) the IFRS Authorities could improve the content and structure of Social Reports to increase their attractiveness to investors/stakeholders?

The author presents a brief case study of TMR, a. s., a company in Slovakia, to describe and discuss the historical development of the Social reports during the period of 2011–2019.

Research methods applied in the Paper comprise standard methods, such as description, classification, analysis and synthesis. As for analysis, content analysis and comparative analysis are preferred. In different parts of the Paper, there are different methods used appropriately to the content. Standard analytical steps and procedures are used (such as data mining, identification and/or selection of key data, data evaluation, generalization etc.). The research objective was limited to the research within the category of Small and Medium Enterprises (SMEs). Nowadays, this category of companies is gaining in importance from the point of view of the growing rate of innovation, digitalization and other elements of the Fourth Industrial Revolution such as application of artificial intelligence. The tendency towards a systemic approach and the growing need for interdisciplinary research is recommendable.

New literature from the last 5 years was preferred and only selected sources were included. It does not mean that older literature is not be mentioned. However, a selection was necessary.

The prevailing character of our Paper is qualitative; an underlying reason consists in the growing significance of this type of research, another reason is a poor quality or non-existence of documents in the case study of TMR, a. s. and in comparable tourist industry enterprises in Slovakia. For these reasons, the author decided to use a non-standard method of verification of official documents of TMR, a. s. The author compared the TMR, a. s. selected documents found in the Business Register of the Slovak Republic with CSR Reports in the Annual Financial Reports. Although more differences and shortcomings were found, they cannot undermine the satisfactory result of this time-consuming control procedure.

Bibliography consists of 3 categories of sources: 1. Theoretical (academic), 2. Business, and 3. Official documents.

4. RESULTS AND DISCUSSION

The aim of research in this paper embraces two issues: firstly, the relations between IFRS and CSR in theory and practice; secondly, selected questions related with the significance of the social reporting for investors' information and decision-making.

Our analysis aims at answering two questions: (1) what are the main topical features and application trends of the main CSR theories, and (2) whether (and how) the IFRS Authorities could improve the content of Social Reports to increase their attractiveness for investors. Then, a brief "case study" of the company Tatra Mountains, a. s. follows.

4.1 Theory and practice of CSR reporting

4.1.1 CSR concept and content of reports

The concept of CSR is far from clear and understandable. Many different characteristics exist. The differences between the CSR concept and content exist due to the historical development of CSR in different countries and also because of other factors, such as legal system, corporate governance, rate of growth, national economy structure, education etc.

In the Czech Republic, one of the underestimated problems is the translation of technical terminology used in CSR Reports to and from English. In fact, it is a real confusion, as the attempts to create scientific terminology recognized by the majority of experts and respected by media as well failed. Let us enumerate "the most infected terms":

- approach
- aspect
- category
- dimension
- kind
- level
- model

These terms very often are used as synonyms, but it is clearly wrong. To complete the above list, three frequent terms can be cited: part, component, element. Unfortunately, for technical reasons, it is not possible to analyze this issue. Another thorny question is the affluence of terms identifying the elements of the term "CSR substance" (or simply – content).

For Czech students – and teachers as well, the incorrect (poorly organized) terminology is a root of many misunderstandings and unnecessary debates "about nothing". In the author's opinion, a similar situation exists in many (especially in non-Anglo-Saxon) countries. The reasonable way how to avoid unproductive and super fluent debates (sometimes motivated with a "career-way of thinking or other unethical considerations) and to try diligently to study the new trends on the field of CSR agendas and try to understand the changes. In practice, it does not matter so much whether four, five, or six or any other number of CSR categories, elements, domains etc. exist, but it is most important to identify the positive and negative impact for the individuals and for the whole society (or parts of it) the CSR official measures may cause. This pragmatic attitude does not mean the undervaluation of research- on the contrary - it may foster its development. At the same time, it leads to a more tolerant approach to a different view in the CSR domain. As for academic literature (last, but not least): "…it is safe to say based upon the existing academic literature that CSR is a concept that brings together many aspects of an organization strategy that can be used as guidance for a better society (de Boer, 2020)."

4.1.2 Education

One of the tendencies of new approaches to CSR issues is growing stress laid on CSR education. After the previous World Crises, it was necessary to renew investors motivation to capital market investments. Without elementary education, it is very difficult to persuade individual investors to invest their own money into unclear and risky transactions. This is one of the reasons why articles and book about capital investments were needed. All responsible investors had to study and understand Corporate Financial Reports a part of which Corporate Responsibility Reports are. After the last World Crisis, one of the well-known American colleges published an excellent manual on how to read a CSR Report (BOSTON College – Center for Corporate Citizenship, 2010). However, topical practical problems emerged: academic research does not always offer practical literature on business know-how and the field of CSR issues is more and more occupied by consultancy companies which do not offer their services for free. In addition to this, the prices are relatively high and the quality of services is not guaranteed. Anyway, securities traders are trying to offer free of charge information to their clients. In the last years, this tendency is growing.

4.1.3 CSR Standards

Standardization can be defined as an element of Securities Trading Infrastructure. CSR Reporting is based on the CSR Standard 26000 issued by International Standard Organization (ISO). However, there is a number of international organizations whose agendas are in a close neighbourhood of the CSR agenda (such as Sustainability Reporting etc.). The result is that misunderstanding may arise. Our research results confirm it as a real fact. Therefore, there is a growing need to put competing international organizations under pressure to develop closer cooperation and coordination. Recognized Standards in the Czech Republic are enumerated: 1. The AA 1000 International Accountability/Assurance Standard; 2. Global Reporting Initiative (GRI); 3. ISO 26000; 4. SA 8000 Standard; 5. OECD Guidelines for Multinational Enterprises; 6. The Tripartite Declaration on the Principles for Multinational Companies and Social Policy; 7. UN Global Compact; 8. UN Guiding Principles on Business and Human Rights and other international conventions (Ministry of Industry and Trade, 2014).

4.1.4 CSR Reports and their evaluation

Any practice of different reports' evaluation is very difficult and complex work. One of the difficulties consists in the fact that universal characteristics and/or definitions of "quality" are practically out of question. However, without an acceptable definition, any research would be impossible. Our research in CSR proves that it is true. A pragmatic solution is a possible way. (See Section 2 of the Paper). A workable approach will depend on the identification of an element of the given object, or of a given activity/action. In other words, an index has to be set up (following the rules of Statistics). In practice, there are many indices (everybody tries to invent its own). Therefore, a thorough analysis of an index is necessary to find out its positive and negative features before any decision - based on a given index - is taken. According to the author's opinion, no "ideal" indices exist; only those verified by practice and accepted by experts (by both types: theorists and practitioners). Because of the above-mentioned difficulties, the author prefers a simpler way of (pragmatic) evaluation of CSR reports: identification of key elements of a CSR report, elaboration of a "pricelist" for all items, classification of elements and producing a "total". According to the goal of the described steps, a horizontal line (historical development) or a vertical line (significance of index elements) eventually combined data may be evaluated. Comparison of CSR reports of different companies is possible if a mandatory list of the elementary items is set up. In case that such a list does not exist, every company is free to set up its own list, i.e. changes of the list during the research period is not advisable. The described "list-free" method's elementary danger consists in the subjectivity of choice of the index setter. Official lists prescribed by Official Authorities, in principle (under certain conditions) may tend to be more objective, but they are less flexible (bureaucratic barriers, etc.) (See Section 2. Literature)

4.2. Whether (and how) the IFRS Authorities could improve the content of Social Reports to increase their attractiveness for investors

As for SMEs (see part 4.3 of paper as well).

- To support the idea of obligatory Reporting (with a possibility of minor exceptions) on the national level (EU members included). The exceptions would be differentiated according to branches and economic and social parameters (significance for national economy included). Obligatory Reporting for SMEs should be applied to all legal forms of property (Social benefit companies included)
- The CSR Reports content should be unified to enable better comparability which is necessary for quality evaluation; at national and international dimensions, changes of Standards (Formal Format of Reports included) are necessary;
- CSR Reports should support innovative thinking, use of a fresh style, enriching the text with photographs to be more attractive for users;
- Better coordination of activities of all relevant Authorities (organizations, associations, initiatives etc.) is necessary,
- Because of the Fourth Industrial Revolution acceleration, international meetings on cooperation and coordination should take place every 3 years (instead of 4 years).

4.3 The Social Responsibility Reporting system of the company TM a. s.

Why Tatra Mountains a. s. serves as an example? The company belongs to the most important subjects in the tourist industry, in the domain of hotels and sports in Slovakia and abroad (Poland, Austria, Czech Republic, etc.) as well. The company shares are traded on the stock exchanges in Prague, Bratislava and (up till now) Warsaw. The Company is an example of long-term successful development. It is worthwhile to study the causes of this success and of some impediments to future development. From this point of view, the experience of TMR a. s. may serve as a model case with its positive and negative sides.

4.3.1 The Social Reporting system of the company TM a. s.

Three approaches (criteria of classification) are applied: (a) according to the existing end-users, (b) according to the potential investors' use. In principle, the system consists of two components: 1. Endogenous part (i.e. internal system applied within the company, for employees and shareholders), 2. Exogenous part (i.e. system applied for external use, especially the use by potential investors), and 3. According to the documents, i.e. company annual reports and a list of currently published information. During the research period (2011–2020), the company issued on average on average yearly 20 items of information on the main activities and important managerial decisions. Most documents are open, i.e. all interested persons have free access. However, there are also closed to the public internal documents, the circulation of which is limited. In principle, the social reporting system has to be transparent as much as possible. All documents issued have to follow relevant legal regulatory rules and Company internal rules as well. Because of Covid-19 pandemic, detailed information on the CSR assessment and performance (at this moment) is not available.

4.3.2 Evaluation of selected data

Two company data sets were selected: firstly, shareholders' structure, and secondly, selected data on CSR Reports. (See Section 3. Methodology) Table l compares TMR, a. s. shareholders companies' names and owned shares at the beginning of the research period in 2011 with the situation at the end of the research period in October 2018.

Table 1. Shareholders structure (2010/2011; 2018/2019)

Year 2010/2011	**%**	**Year 2018/2019**	**%**
Small shareholders	38,52	Small shareholders	23,50
Poštová banka, a.s	17,44	C.I. Capital Industries Ltd.	19,50
J & T Banka, a. s.	13,46	FOREST HILL COMPANY, s.r.o.	15,40
Clearstream Banking S.A.	9,81	Nikroc Investment Ltd.	13,40
TLD s.r.o.	7,36	KEE DEE LIMITED	9,90
Patria Finance, a.s.	6,74	Tinsel Enterprises Ltd.	9,50
Tatry Investment Ltd.	6,67	RMSM1 LIMITED	8,80
Total	100,00	Total	100,00

Source: own elaboration based on TMR, a. s. Annual Report, 2011; TMR a. s. Annual report 2018

The comparison answers two questions: 1. The change of the shareholders' structure, and 2. The changes in shareholders' shares.

Comment 1. The number of shareholders remained the same, i.e. seven (7). However, with the exception of the small investors' group, all original 6 shareholders companies changed. The share of the group of the small shareholders" group (SMEs) fell from 38,5% to 23,5%, i.e. the influence of the SMEs group on the TMR, a. s., company strategy, policy and behaviour were substantially lower. This change may cause a change of CSR significance for the company as a whole.

Comment 2. The above changes might have caused changes of the content, strategy and other elements of company CSR activities. However, it has to be found out a by separate analysis. For research results of selected parameters see Table 2.

Table 2. Selected parameters of TMR, a. s. (2011 vs. 2018)

No.	**Parameter**	**2011**	**2018**	**Note**
1.	Aim identification	no	no	
2.	Theory	neutral	neutral	
3.	Content	A + B	A + B + C	
4.	Scope	143 pp.	123 pp.	Not comparable
5.	Assessment	low	high	
6.	Quantitative data	missing	exist	
7.	Character/type	descriptive	descriptive	
8.	Professional investors	Not acceptable	Acceptable	
9.	Marketing	0	high	
10.	Quality evaluation	low	high	

Source: own elaboration based on TMR, a. s. Annual Report, 2011; TMR a. s. Annual report 2018

Notes: No. 2: CSR reports may be based, for example, on sustainability theory or other theories; No. 3: A = ecology, B = human capital, C = other; No. 4: incomparability is caused by the use of different sheet formats; No. 5: in case of low assessment of CSR activities, the text suffers from a poor language and other shortcomings; No. 9: modern CSR reports are attractive and readable for interested readers.

The 25 research questions examined by the author in his "virtual questionnaire", i.e. secondary data publicly available online, were transformed into "elements of quality" of the relevant CSR Reports (see Table 2 above).

The above table indicates a substantial change of quality of CSR Reports (as elements of the Company Annual Report). However, there is a large space for improvements, at least of part of parameters. The final results of evaluation belong to the category of quasi-objective evaluations (i.e. it is based on verified documents). The authors' choice of criteria is limited and may be subject to criticism. The need for deeper analysis is evidently high, however, it will depend on the availability and completeness of documents (missing, unpublished, changed etc.)

5. CONCLUSION

Research results described, classified, analyzed and discussed in this paper/article prove a positive assessment in IFRS and CSR Reporting theory and practice. In spite of technical and other limits, the main aim of the research was fulfilled. However, many research questions remain open to further and deeper future research. As for theory, during the research period 2010–2019, the necessity and significance of financial and non-financial reporting were growing. In a certain respect, its character was changing in favour of the use of a more sophisticated methodology, a better quality of relevant data (reliability, transparency etc.) and a stream of innovations (both SW and HW); these positive changes were due to the Internet, digitalization, development of artificial intelligence etc. In other words: the impact of positive features of the Fourth Industrial Revolution is more and more visible. The transformation process in the fields of IFRS and CSR is beginning: there is a tendency to systemic thinking and inter-disciplinary approach. In addition to this, there is tendency to change the traditional rigid academic behaviour into more flexible and efficient behaviour. Simply speaking: we are on the way to change the system of reporting to be able to meet the new needs. The ambition of researchers is to try to contribute to the assessment of new ideas. In Section 4., the author proposed important changes concerning the applicability of CSR Reporting to SMEs as well as changes of criteria to enable a more efficient working of the non-financial reporting system. The author is aware of the fact that legislative changes are the key to the proposed economic, financial and social measures.

The case of the Slovakian company analysed above is an example that a company of the SMEs category can – under favourable conditions – achieve admirable results.

Every author's ambition is to contribute to the approval of theoretical and/or practical recommendations and their assessment. The spread of innovative ideas and proposals is one of the necessary conditions for real improvements. Politicians – both at national or international /supranational levels should not undermine this strive for better future of our Planet.

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Nonfinancial Reporting

IMPACT OF COVID-19 ON THE CONTENT OF INFORMAL CSR REPORTING – A SET OF CENTRAL EUROPEAN CASE STUDIES

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Abstract
The three pillars concept of sustainability relies on the multi-stakeholder model and expects socially responsible behavior by each and everyone, including businesses. Their sustainable engagement is the outcome of by them generally freely assumed Corporate Social Responsibility ("CSR"). The EU has been following the sustainability trends and goals set internationally by the UN, including the Agenda 2030 with its 17 Sustainable Development Goals ("SDGs"). Nevertheless, the EU law requires CSR reporting only by certain businesses and does not go into detail regarding its compulsory content, see Directive 2013/34/EU, especially Art.19a. Large businesses admit to be in the reach of the Directive 2013/34/EU and satisfy their CSR reporting duty. However, in what quality is it satisfied during the stress test time? The COVID-19 pandemic has impacted almost all aspects of our life and its consequences for businesses and their conduct in Central Europe are massive and multi-faceted. As a precursor of the assessment of formal CSR reports for 2020 to be filed in 2021, a set of central European case studies regarding various industries was performed in the summer of 2020 to holistically and critically assess whether and how COVID-19 impacted their informal CSR reporting. A qualitative Delphi-method was used along with an automatic key word scanning and revealed a significant impact with various nature, intensity and patterns. If this is confirmed by the formal CSR reports to be filed within next 10 months, then it means that the COVID-19 pushes the content of CSR reporting into a new dimension.

Keywords: *corporate social responsibility (CSR), content of CSR, COVID-19, directive 2013/34/EU, informal CSR reporting*

1. INTRODUCTION

In 2020, non-financial reporting aka Corporate social responsibility ("CSR") is a reality and the majority of European businesses prepare statements and reports about their CSR and publish them either formally as a part of annual reports within a management report via the EU platform eBRIS or informally via their domains (MacGregor Pelikánová, 2012). The updated Directive 2013/34/EU of 26 June 2013 on annual financial statements, consolidated financial statements and related reports of certain types of undertakings, as amended by Directive 2014/95/EU and also Council Directive 2014/102/EU ("Directive 2013/34") upgrades the formal CSR reporting to a legal duty for certain businesses, while leaving it totally up to the discretion of other businesses if they will or will not do formal CSR reporting. Large Central European businesses, especially those from the Czech Republic, are clearly within the reach of the legal duty to officially publish CSR statements as a part of their annual reports with management reports and they do satisfy, at least formalistically, this legal duty (Jindrichovska et al., 2019; MacGregor Pelikánová, 2019a). However, there are still various schools of thought and opinion streams regarding the CSR and the intimate conviction and commitment regarding the CSR still vary dramatically. Naturally, milestones and challenging events, such as the monetary crisis (Pažický, 2018), fiscal crisis (Szymańska, 2018), and Brexit crisis (Czech & Krakowiak-Drzewiecka, 2019) have the capacity to dramatically shake up the pre-established perceptions and preferences. The current COVID-19 pandemic definitely belongs to these types of events (Korzeb & Niedziółka, 2020) and it is highly legitimate to ask if and how it has been impacting the CSR as witnessed by the, as yet, only available CSR reports – informal aka unofficial CSR statements freely provided by the Central European large businesses. In order to address these two research questions, after this Introduction (1.), a presentation of conceptual and legislative framework (2.), a literature review (3.) and methodology (4.) need to be done, while being followed by two sets of appropriate case studies – regarding Czech businesses (5.) and businesses from other central European countries (6.). This should provide enough of a foundation for well-developed arguments, leading to pioneering conclusions to be confirmed by further studies working with formal CSR reports (7.).

2. CONCEPTUAL AND LEGISLATIVE FRAMEWORK

The concept of sustainability has grown with globalization and the apparently unrestricted growth in the power of corporations leading to the proposition that global companies, as powerful economic, social and political actors, must increasingly be brought within the law´s domain (Bunn, 2004). It quickly became clear that this concept needs the engagement of all (Bode & Singh, 2018) and that the responsibility of businesses not only for their economic impact, i.e. CSR (Bansal & Song, 2017), and the multi-stakeholder model (Van Tulder, 2017) and cross-sector partnership are pivotal (Van Tulder & Keen, 2018). CSR consists of many types of social responsibility: economic, legal, ethical, etc. (Sroka & Szantó, 2018) and deals with what is either morally or legally right or at least expected (MacGregor Pelikánová, 2019b). If the law includes such a responsibility in its regulatory reach, thus making this responsibility enforceable and ultimately considered by a judge, then this responsibility becomes a liability (Schüz, 2012). States have demonstrated various approaches to sustainability and accordingly have “delegated” some CSR tasks and duties to stakeholders, including businesses. Consequently, CSR evolves from ‘no’ regime over to a facultative regime to a mandatory regime (Strouhal et al., 2015). Obligations to report CSR and non-financial information in EU countries have been included in the management reporting of companies in the Slovak Republic and the Czech Republic through the national accounting laws (Petera et al., 2019; Paksiova, 2016).

This legal evolution commenced at the international law level. In 1948 the UN General Assembly proclaimed in Paris the Universal Declaration of Human Rights (“UDHR”) proclaiming human rights principles (MacGregor Pelikánová & MacGregor, 2020). Based on this international law foundation, two decades later there emerged the concept of sustainability based on economic (profit), environmental (planet), and social (people) pillars and focusing on the reconciliation of available resources as an increasing world population emerged (Meadows et al., 1972). The first international law document embracing this concept was the Report of the World Commission on Environment and Development Report: Our Common Future prepared by the Brundtland Commission published as the UN Annex to document A/42/427 in 1987 (“Brundtland Report 1987”) (MacGregor Pelikánová, 2019b). Currently the most relevant international law document in this field is the Resolution made during a historic UN Summit in September 2015 and entitled ‘Transforming our world: the 2030 Agenda for Sustainable development’ (“UN Agenda 2030”), which brought with it 17 Sustainable Development Goals (“SDGs”) and 169 associated targets and was adopted by world leaders (MacGregor Pelikánová, 2019a). With a varying level of determination and success, these leaders are bringing the modern concept of sustainability home, i.e. in their national law system. Consequently CSR is taking on more mandatory features and is slowly, but certainly moving to the status of a liability within national law. Nevertheless, this is a lengthy process and e.g. the EU in its drive for both effectiveness and efficiency (Staníčková, 2017), is convinced that the CSR should be "company led" (European Commission, 2020a) and does not want to overregulate from above (MacGregor Pelikánová & MacGregor, 2020).

Indeed, in the EU and EU member states, the CSR regime consists of various soft and hard law incentives, i.e. regulatory efforts attempting to set minimum standards and the publication duty (MacGregor Pelikánová & MacGregor, 2020). The CSR is still presented as more of a responsibility than a liability, towards all stakeholders aka the entire society while matching constitutional values and principles with all three sustainability pillars (Olšanová et al., 2018) and so supporting modern European integration with an internal single market (MacGregor Pelikánová, 2019c). In sum, the EU strategy for CSR stresses the importance of visibility of the CSR, the integration of the CSR in all fields and the improvement of self and co-regulation processes and businesses´ disclosures regarding their CSR, thus social (Polcyn, 2018), technological (Balcerzak, 2016), innovation (Žižka et al., 2016) and other potentialities can be developed and competitive advantage achieved (Kocourek, 2015). This strategy organically led to Directive 2013/34 which via Art. 19a imposes the following legal duty: *"Large undertakings which are public-interest entities exceeding on their balance sheet dates the criterion of the average number of 500 employees during the financial year shall include in the management report a non-financial statement containing information to the extent necessary for an understanding of the undertaking's development, performance, position and impact of its activity, relating to, as a minimum, environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters, including …"*Art. 30 further specifies the publication aspect by stating *"…Member States shall ensure that undertakings publish within a reasonable period of time, which shall not exceed 12 months after the balance sheet date, the duly approved annual financial statements and the management report, …"* . Manifestly, the EU wants large European businesses to publish their reports with CSR statements, hopes that the large public will react to it and so indirectly pushes these businesses to be increasingly CSR committed. Case studies confirm these expectations and reveal that large Central European businesses do report about their CSR, and this not only in the official requested manner but as well on ongoing basis via their Internet pages placed on their domains. However this rather natural and logical trend is currently influenced by the newest crises – the COVID-19 pandemic which makes businesses re-consider their priorities and strategies. COVID-19 is a stress test with potential to reveal genuine feelings and commitments about CSR and current informal CSR statements and reports can explain it further (VigeoEiris, 2020).

3. LITERATURE REVIEW

At the very heart of CSR is the moral obligation of the given business towards the entire society, asking it to go beyond the mere concept of profit maximization (Rowley & Berman, 2000) and to communicate the social and environmental effects of their economic actions to various stakeholders (Manzoor et al, 2019). The EU motto *"united in diversity"* neatly fits in with the perception of CSR as a dialogue and interaction between businesses, corporations and their stakeholders (Małecka et al, 2017), including customers (MacGregor Pelikánová, 2019c) and is reflected by EU policies (Šebestová et al, 2018), which, so far, lead to only one legal duty regarding CSR for only some subjects – to report about it (MacGregor Pelikánová, 2019a). In central Europe, these trends need to be observed while considering the corporate dynamics (Piekarczyk, 2016) as well as dynamics between business actions dealing with goods v. services

(Žižka, 2012). The academic discussion led to a recognition of six CSR categories (MacGregor Pelikánová, 2019a):

- environment protection (Krause, 2015),
- employee matters (Dvouletý, 2017; Tvrdoň, 2016),
- social matters and community concerns (MacGregor et al., 2020a),
- respect for human rights (Osei-Tutu, 2019),
- anti-corruption and bribery matters (Sroka & Szántó, 2018) and
- R&D activities (MacGregor Pelikánová, 2019d).

Consequently, it is up to the discretion of the businesses how much they will engage with each of these CSR categories (Arminen et al., 2018), how they use it as a competition leverage (MacGregor Pelikánová, 2019c), element of external and internal strategies on various management levels (MacGregor et al., 2020a) and inform about it (MacGregor et al., 2020b). CSR might be perceived as a negative and bureaucratically imposed burden generating costs without returns and initiated merely by a group of extreme environmentalists, while, for others, CSR is a vehicle for improvements in all three spheres of sustainability (economic, environmental and social), i.e. an instrument to improve financial performance (Rodriguez-Fernandez, 2016), marketing (Adamska, 2020) and other strategies (Świadek et al., 2019).

In the pro-CSR camp, it is suggested that a deep commitment to CSR leads to „a more sophisticated form of capitalism"(Porter & Kramer, 2011) and the evolution should go from the CSR cultural reluctance over to the CSR cultural grasp to a CSR cultural embedment (Olšanová et al, 2018). This very pro-CSR philosophy is intimately linked to the stakeholder theory, which implies a number of benefits for businesses engaging with CSR: value creation (Ujwary-Gil, 2017), an improvement of the business reputation (Gallardo-Vázquez et al., 2019) and branding (Osei-Tutu, 2019) and ultimately enhancing financial performance (Rowley & Berman, 2000) an increase in market share (Ting et al, 2019). Several studies confirm these propositions (El Ghoul et al, 2011), but there are as well studies showing that wrongly selected CSR generated unnecessary costs, crippled financial results (Barnett, 2007) and undermined the competitive advantage (Scherer & Palazzo, 2011). In this anti-CSR camp, there are developed traditional theories (Strouhal et al., 2015), which are more sceptical, point to limitations due to possible agency conflicts between managers, shareholders, environmental activists, etc. (MacGregor Pelikánová, 2017).

In this setting abruptly arrived the COVID-19 pandemic, with almost 4 million confirmed cases, 800,000 deaths and a dramatic loss of revenue and a general economic decline. Pursuant to the International Monetary Fund (IMF), the COVID-19 pandemic has brought a global economic downturn which has not been experienced since the 1870‘s (WEF, 2020). The reoccurring and increasing trend of COVID-19 cases in the EU are worrisome (Kufel, 2020).The European Commission expects that the GDP of EU countries will sink by 7.5% in 2020 (WEF, 2020) and its president,, Ursula Von der Leyen, proclaims that "We must not hold on to yesterday´s economy as we rebuild" (WEF, 2020), "We have to push for investment and reform – and we have to strengthen our economies by focusing on our common priorities, like the European Green Deal, digitalization and resilience" (European Commission, 2020b) and that it is necessary to support Europe in its transition to "a climate-neutralized and resilient economy" (European Economic and Social Committee, 2019). The CSR approach (European Commission, 2019) and the employment of the multi-stakeholder model (European Commission, 2015) acquired an additional function (Marčeta & Bojnec, 2020) under the new EU motto "repair and prepare for the next generation" (European Commission, 2020c). That is, in short, to use the CSR drive not only to support smart, sustainable and inclusive growth, but also to make it the instrument addressing the pandemic COVID-19 as not a threat, but rather as an opportunity.

4. SOURCES, DATA AND METHODS

The research methodology, including mined, extracted and analyzed data and employed methods, in this paper are determined by its two mutually related objectives: to identify (i) whether the COVID-19 pandemic has impacted informal CSR reports of Czech and other Central European businesses, and, if yes, how (ii) COVID-19 has been projected in the 6 CSR categories. Via case studies, it aims to overcome inherent paradoxes (Hahn et al., 2018) and challenges to deal with the ephemeral phenomena of CSR and COVID-19. This set of case studies of Central European business is aimed to be a precursor for similar studies regarding formal CSR reports to be filed in 2021. In order to get real and homogenous data, the sample of businesses included in case studies consists of Central European businesses which are large companies with over 500 employees, are under the CSR reporting duty pursuant to Directive 2013/34 and have been providing formal CSR reports during the last five years. Namely, out of 30 of the largest Czech business based on average annual revenues, in total 20 satisfied the mentioned criteria and their www pages were searched with respect to the COVID-19 and its impact on the content of informal CSR. This Czech national set was complemented by a set of 10 mother or sister businesses from the Central Europe.

Table 1 provides the list of the 1st set of involved businesses, i.e. 20 Czech companies and 10 companies from other central European countries which satisfy the set criteria. In addition the Table 1 indicates their key identification and business conduct parameters as well their pertinent domains.

Table 1. Case study – the 20 largest Czech businesses providing informal CSR reports

	Business	Domain	ID	Industry	Revenue in bil. CZK
1.	Škoda Auto, a.s.	skoda-auto.cz	00177041	automotive	416
2.	ČEZ, a.s.	cez.cz	45274649	electricity	185
3.	Agrofert, a.s.	agrofert.cz	61672190	agricultural	160
4.	Energetický a Průmyslový Holding, a.s.	epholding.cz	28356250	energy	160
5.	UNIPETROL, a.s.	unipetrol.cz	61672190	chemicals	130
6.	RWE Supply & Trading CZ a.s	innogy.cz	26460815	oil and gas	104
7.	Foxconn Technology CZ, s.r.o.	foxconn.cz	27516032	electronics	104
8.	Continental Automotive CZ s.r.o.	continental.cz	62024922	Automotive	57
9.	Kaufland Česká Republika, v.o.s.	kaufland.cz	25110161	Grocery	57
10.	Albert Česká repulika, s.r.o. (Ahold)	albert.cz	44012373	Grocery	49
11.	ČEPRO, a.s.,	ceproas.cz	60193531	oil and gas	48
12.	Finitrading a.s. (Třinecké želez.)	trz.cz	61974692	iron, finance	47
13.	MOL Česká republika, s.r.o.	molcesko.cz	49450301	Gas	50
14.	E.ON Česká republika, s.r.o.	eon.cz	25733591	Energy	45
15	O2 Czech Republic a.s.	o2.cz	60193336	telecom.	38
16.	České Dráhy, a.s.	cd.cz	70994226	Railways	35
17.	Metrostav a.s.	metrostav.cz	00014915	Building	35
18.	VEOLIA ČESKÁ REPUBLIKA, a.s.	veolia.cz	49241214	water supply	27
19.	T-Mobile Czech Republic a.s.	t-mobile.cz	64949681	telecom.	14
20.	Skanska, a.s.	skanska.cz	26271303	Building	14

Source: Prepared by the Authors based on justice.cz

Table 2 provides the list of the 2nd set of involved businesses, i.e. 10 companies from other central European countries which satisfy the set criteria and which are to a certain extent related to at least one of the companies mentioned in the 1st set. In addition, Table 2 indicates their key identification and business conduct parameters as well their pertinent domains.

Table 2. Case study – 10 related Central European businesses providing informal CSR reports

	Business (country)	**Domain**	**Related to**	**Industry**
21.	Agrofert a.s. (SK)	agrofert.sk	Agrofert	agriculture
22.	E.ON SE (GE)	eon.com	E.ON	energy
23.	Deutsche Telekom AG (GE)	telekom.de telekom.com	T-mobile	telecom.
24.	Kaufland Stiftung (GE)	kaufland.com	Kaufland	grocery
25.	MOL Hungary (HU)	mol.hu	MOL	gas
26.	O2 s.r.o.	O2.sk	O2	telecom.
27.	PKN Orlen (PL)	orlen.pl	Unipetrol	chemicals
28.	RWE Energy AG (GE)	group.rwe	RWE	oil and gas
29.	Skanska SK a.s. (SK)	skanska.sk	Skanska	Building
30.	Volkswagen AG (GE)	Volkswagenag.com	Škoda Auto	automobile

Source: Prepared by the Authors based Internet research

This multi-disciplinary research of predominantly primary data calls for processing by both critical and comparative methods. Namely, the exploration of the yielded data employed mainly Meta-Analysis and content analysis, along with a simplified Delphi method, while focussing slightly more on qualitative than quantitative aspects (Silverman, 2013). The case study format matches with the mentioned objectives because it allows the authors, as investigators, to retain the holistic and meaningful characteristics of real-life events (Yin, 2008). The exploration of the data is to be done via holistic processing with the use of meta-analysis (Silverman, 2013) and refreshed by critical closing and Socratic questioning (Areeda, 1996). Thus the quantitative research and data is complemented by qualitative research, along with this holistic and comparative processing via critical Meta-Analysis is trend indicative (Cerchia & Piccolo, 2019).

The quantitative aspect in the form of the automatic calculation of key words, such as COVID-19 or CSR was rejected due to the nature of both mutually related objectives. Namely, there is no robust academic or scientific support for the proposition that the frequency of certain words dealing with COVID-19 and CSR on www pages of a business would allow for drawing a conclusion about the impact of COVID on the content of informal CSR reporting. Such a proposition would be highly speculative. Therefore, the qualitative aspect was advanced and addressed by the holistically manual approach employing a simplified manual Delphi method. (Okoli & Pawlowski, 2004). Namely, each and every one of these 30 www pages was carefully read through by three experts on CSR matters including reporting (JK, LM and ZFL, i.e., none of these three experts was the author of this paper) while following a universal set of guidelines and simple questionnaires prepared by the authors. All three experts master English, have college degrees, experience with CSR, at least 20 years of executive job experience and a strong law and/or economic background. Two of them are women and one is a man. They accessed appropriate domains, put in the search mask the key word "COVID" and studied all generated information. Thus, their replies met the expertise expectations. These first-round replies were processed and compared by the authors and, based on them, the authors prepared a summary of discrepancies which was communicated to these three experts for the second round. They updated their replies and resent it to the authors. This data, generated from the second round, was used for the paper. Namely, based on these guidelines and questionnaires, each of these three experts scored the www and search for the overlapping information about COVID-19 and each of the CSR categories. A lack was marked (0), a negative impact (-), a basic positive overlap (+) and an advanced positive overlap (++). Appropriate guidelines for ranking were provided. To increase the indicative value, representative statements were noted and are directly cited in the table below. In sum, the predominantly qualitative content text was done by dynamically and comparatively exploring with respect to all 6 CSR categories (Kuckartz, 2014), including research and development (R&D) leading to innovations (Pohulak-Żoledowska, 2016).

5. CASE STUDY – INFORMAL CSR REPORTS IMPACTED BY COVID-19 – CZECH BUSINESSES

Regarding the 1st set, the above identified 20 largest Czech businesses have been providing informal CSR reports on their Internet pages placed on their "domicile" domain in the Spring and Summer of 2020, i.e. during the (first) COVID-19 wave in the EU. The below Table 3 summarizes whether and how each CSR category was impacted by COVID-19 and under Table 3 are demonstratively indicated their programs and quotes to emphasize the particular CSR and COVID-19 overlap.

Table 3. Overlap of the informal CSR reports with COVID-19 by 20 largest Czech businesses in August 2020

	Business	Envir.	Empl	SocCo	HRs	Corr.	R&D
1.	Škoda Auto, a.s.	0	0	0	0	0	+
2.	ČEZ, a.s.	+	++	++	0	0	+
3.	Agrofert, a.s.	0	0	+	0	0	0
4.	Energetický a Průmyslový Holding, a.s.	0	+	++	0	0	0
5.	UNIPETROL, a.s.	+	+	++	0	0	+
6.	RWE Supply & Trading CZ a.s	+	+	+	0	0	0
7.	Foxconn Technology CZ, s.r.o.	0	+	0	0	0	0
8.	Continental Automotive CZ s.r.o.	0	0	0	0	0	0
9.	Kaufland Česká Republika, v.o.s.	0	0	0	0	0	0
10.	Albert Česká repulika, s.r.o. (Ahold)	+	0	++	0	0	0
11.	ČEPRO, a.s.,	+	0	+	0	0	+
12.	Finitrading a.s. (Třinecké želez.)	0	0	0	0	0	0
13.	MOL Česká republika, s.r.o.	0	+	+	0	0	0
14.	E.ON Česká republika, s.r.o.	0	0	0	0	0	0
15	O2 Czech Republic a.s.	0	0	+	0	0	+
16.	České Dráhy, a.s.	0	0	0	0	0	0
17.	Metrostav a.s.	0	+	++	0	0	0
18.	VEOLIA ČESKÁ REPUBLIKA, a.s.	0	0	++	0	0	0
19.	T-Mobile Czech Republic a.s.	0	0	0	0	0	0
20.	Skanska, a.s.	0	0	0	0	0	0

Source: Prepared by the Authors and experts based on Internet search of Internet pages of these businesses

Škoda Auto has launched an online hackathon „COVID Mobility Race" in order to support the future of the automotive industry and engages more in new forms of R&D, Agrofert just symbolically donated some yogurt to medical staff treating COVID-19 patients and Foxconn just installed an enhanced protection of employees, otherwise there is no apparent impact of COVID-19 on CSR reporting that could be detected. By contrast, much more active and developing a CSR-COVID overlap is ČEZ, with its set of developed programs, including "Anti-Covid team helps hospitals" and "ČEZ funds help with emergency support", EPH with its programs "Thousands of masks and gloves for free", Unipetrol with its programs "11 0000 liters of disinfection for schools". As well, RWE with its program "I am Corona", ČEPRO with its programs "Mobile phones against COVID" and "Disinfection distribution", Metrostav with its program "17 million of building units for hospitals" and Veolia with "Helping hospitals". Continental, Kaufland and České dráhy did not show any interest in this respect, but a direct competitor of Kaufland, Albert, seems committed to help COVID victims financially and dramatically increases automatization and disinfection. Finitrading and EON provide a truly developed CSR report, but interestingly without any COVID-19 notions. Mol is merely dealing with the increased protection of employees and customers. Similarly not impressive are O2, T-Mobile and Skanska, but it must be admitted that O2 helped with its IS/IT network to spread critical COVID-19 information (especially via SMS') and offered extra TV programs for free. In sum, businesses clearly seeing the potential to turn COVID-19 into an opportunity for CSR, namely for more than one category of CSR are: ČEZ, EPH, Unipetrol, Albert, Čepro, Metrostav and perhaps even the "forced" O2. There are differences even within the same industries, but still it can be proposed that the energy and gas (distribution) sector is on the higher end while the transport sector is at the lower end. The research results also suggest a link between the economic impacts of COVID-19 on the company and CSR. While the transport industry has been hit very hard, energy companies have significantly lower losses and perhaps therefore have better CSR. However, this hypothesis would have to be examined in more depth. Some earlier studies of the relationship between CSR and financial performance support this proposition (Cho, 2019). The composition of shareholders does not seem to be relevant, see differences between state businesses ČEZ and České dráhy. The positive results for the energy/gas sector, in particular, as well as the disappointing results regarding the transport sector call for a comparison in the Central European context, namely sister, daughter and mother companies.

6. CASE STUDY – INFORMAL CSR REPORTS IMPACTED BY COVID-19 – NO CZECH CENTRAL EUROPEAN BUSINESSES

Regarding the 2nd set, the above identified 10 Central European businesses are companies related to the mentioned 20 largest Czech businesses and which have been providing informal CSR reports on their Internet pages placed on their "domicile" domain in the Spring and Summer of 2020, i.e. during the (first) COVID-19 wave in the EU. Table 4, below, summarizes whether and how each CSR category was impacted by COVID-19 and under Table 4 are demonstratively indicated their programs and quotes to emphasize the particular CSR and COVID-19 overlap, as well as comparative notes regarding the mother/sister/daughter company included in the 1st set.

Table 4. Overlap of the informal CSR reports with COVID-19 by 10 Central European businesses in August 2020

	Business	**Envir.**	**Empl**	**SocCo**	**HRs**	**Corr.**	**R&D**
21.	Agrofert a.s. (SK)	0	0	0	0	0	0
22.	E.ON SE (GE)	++	++	++	+	+	++
23.	Deutsche Telekom AG (GE)	0	+	++	0	0	++
24.	Kaufland Stiftung (GE)	0	0	+	0	0	0
25.	MOL Hungary (HU)	0	0	0	0	0	0
26.	O2 s.r.o.	0	0	+	0	0	+
27.	PKN Orlen (PL)	+	+	++	+	0	+
28.	RWE Energy AG (GE)	+	+	+	0	0	+
29.	Skanska SK a.s. (SK)	0	0	0	0	0	0
30.	Volkswagen AG (GE)	+	+	+	+	+	+

Source: Prepared by the Authors and experts based on Internet search of Internet pages of these businesses

Slovakian Agrofert perceives COVID-19 even less as an opportunity for CSR than the Czech Agrofert, as a matter of fact Slovakian Agrofert totally ignores that. In contrast, German E.ON is a model business regarding its genuine endeavors to use COVID-19 as a learning experience and a pathway to new perspectives and platforms for CSR, see its motto "Thinking locally in the global world". German E.ON. even declares its participation in the policy/project of the European Commission "Green deal – Together for a sustainable Europe." Manifestly, the Czech E.ON. is behind its German mother. German Deutsche Telekom clearly perceives COVID-19 as an impulse for new IS/IT solutions, but German Kaufland shows much less interest and basically deals only with the idea about self-made masks. The Hungarian MOL totally passes on the overlap between CSR and COVID-19 and is behind its Czech daughter company. Both Czech and Slovakian O2 marked exactly the same result. Polish PKN Orlen is a good match for German E.ON. in its spread and deep conviction about the overlap of CSR and COVID-19. PKN Orlen is unique in its programs which are oriented towards countries, e.g. disinfection for the Vatican or China. This committed attitude of the mother company explains why Unipetrol, its Czech daughter company, is much better in this respect than other large Czech businesses. German RWE reached basically the same results as the Czech RWE. Slovakian Skanska, exactly as Czech Skanska, does not see any overlap between CSR and COVID-19. German Volkswagen, very similar to German E.ON, clearly champions this opportunity, see its Foundation endeavours.

7. CONCLUSIONS

The performed case studies regarding both sets of Central European businesses strongly litigates for the conclusion that COVID-19 has impacted the perception and realization of CSR, namely COVID-19 has been projected in their informal CSR statements. At the same time, it must be admitted that the performed case studies show various trends and are not conclusive about how COVID-19 has changed these CSR statements. It might be suggested that, generally, German businesses are more pro-CSR reporting oriented than Czech businesses and that the energy, power, oil and chemical sectors exceed other sectors in the advancement of the idea to make COVID-19 an impulse for a new dimension and perception of CSR. Naturally, these conclusions are limited by the time, size and informality of resources, i.e. in the near future follow-up studies should be done involving these as well as other Central European business and both their informal as well as formal CSR statements and reports. Further, it might be stimulating to explore how the COVID-19 pandemic influences a firm value (Tobin´s Q), short and long-term strategies, management of financial, human and other resources, and the responsiveness of various groups of stakeholders, especially investors and customers. Ultimately, this should enhance the awareness and the eagerness to engage in CSR in an open-minded effort, to improve the multi-stakeholder model, to identify and work on shared values and to ultimately adjust EU policies. Each crisis leaves winners and losers. Let´s not be a forlorn loser, complaining about slow business due to COVID-19 and passively waiting for subsidies. Rather, let´s be enthusiastic and pro-active winners ready to push CSR further and make it a competitive advantage and the master key for a sustainable Europe!

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BOARD COMPOSITION AND POLITICAL CONNECTION IN STATE-OWNED COMPANIES FROM ROMANIA, A CATALYST FOR SOCIAL RESPONSIBILITY

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Abstract
State has become an important owner of companies in countries around the world. Companies established political connections to have access to different resources. The present research examines if politically affiliated members of the board of directors may help a company in implementing socially responsible strategies. The objective of the study is to examine the corporate governance in state-owned companies from Romania, to improve social responsibility strategies. The research question is does state ownership and political connections affect social responsibility? Our research, even if is limited and with conflicting findings, contributes to the literature on corporate governance, on the board performance, by extending the investigation of directors' backgrounds from a different perspective. This helps us to understand the relationship between board members and companies strategies. We also contribute to the literature on social responsibility governance by exploring the influence of members of the board of directors, those with a political background, on social responsibility reporting at the company level. Content analysis, observation method, and the comparative method were used to analyze the disclosure on January 1st, 2020. Annual reports, corporate governance reports, corporate social responsibility reports, sustainability reports, curriculum vitae of board members, integrity statements, and official websites of companies were consulted. We develop hypotheses to be tested. After analyzing a total of 1512 company observations and 368 board directors, data related to corporate governance of 63 Romanian state-owned companies, the results show that appointments of politically affiliated directors within the boards are symbolic acts and do not change the social responsibility strategies of companies. The present study is valuable for managerial practice. There is a consistent room for improvement in corporate governance reporting related to political influence. One possible future research is to replicate the study with a larger sample, with companies from different countries.

Keywords: *corporate governance, state-owned companies, the board of directors, politicians, social responsibility*

JEL CLASSIFICATION: G34, H42, H82, K23, l25, I33, I97

1. INTRODUCTION

The paper examines if politically affiliated members of the board of directors may help a company in implementing socially responsible strategies.

Social responsibility has become one of the important concepts of society, governments, and businesses. Companies are giving important portions of their expense budgets to socially responsible actions and activities. Social responsibility is how we act for the benefit of society, transparently and ethically, by maintaining a balance between economy and environment. A company is socially responsible if it is accountable to itself and its stakeholders. It is simple to become a socially responsible company and it is important to avoid using socially responsible opportunities solely for marketing purposes. The International Organization for Standardization published an international standard, in 2010, to help companies address their social responsibilities (ISO 26000).

We tested the hypothesis that companies that have politically affiliated directors on board are associated with more socially responsible policies, actions, and activities.

Corporate governance is how a company is conducted and controlled. The board of directors has an important role in the governance of companies. The roles of directors are: to monitor the management, to assess the performance of executives, to establish the bonuses, to motivate and stimulate managers, to vote for important decisions, such as changes in capital structure, acquisitions, mergers.

Studies on corporate governance have attracted the attention of different researchers. Some authors link the corporate governance with companies' financial performance and affirm that they are more profitable (Mitton, 2002; Gompers, Ishii, & Metrick, 2003; Yeh & Woidtke, 2005, Brown & Caylor, 2006; Choi, Park, & Yoo, 2007; Dahya, Dimitrov, & McConnell, 2008). Recent studies discovered that political influence is used to create value, by shaping financial policy (Hill, Fuller, Kelly, & Washam, 2014). Political connections attract also negative aspects by weakening corporate board functions. Russia and China, where a large number of companies are state-owned, were extensively studied because state ownership is a policy instrument (Musacchio, Lazzarini, & Aguilera, 2015, Musacchio & Lazzarini, 2014). Our research questions are Does board size and composition matter in state-owned companies from Romania? Politically affiliated members of the board of directors may help a company in implementing socially responsible strategies? Industries such as transportation, electricity underwent many legislative changes. This is the reason why we choose a sample of state-owned companies from different sectors of activities. Social responsibility performance is associated with the industry.

An important part of the economy at the global level is controlled by state-owned enterprises. Is a lack of research on the interplay between the board of directors and politics. Some researchers consider the politicians may use their power and influence to pursue political goals (Clarke, Cull, and Shirley, 2005). Other authors consider that the political approach is associated with less effective decisions (Pettigrew, 1973).

State regulations, policies, and actions, directly and indirectly, affect companies around the world. (Wan and Hoskisson, 2003). State cand hold all shares in a company, the majority shares, or the minority shares (Grosman, 2016). Most energy companies in the EU has like owner, even if with less than 50%, the state (European Commission, 2016). According to the literature, state owners satisfy more stakeholders than private owners. They pursue financial, social, and political goals (Jensen, 2002, Bruton et al, 2015).

We contribute to the literature because our study is valuable for managerial practice. The paper is organized as follows. We review the literature related to corporate governance, the board size, board composition, political affiliation and we investigated the challenges companies face concerning social responsibility and match them with the resources that politicians on the board could bring. The methodology used was presented and we conclude and present the final results and also further developments of the present research.

Political affiliation is a measure of preferences for social responsibility. We measure social responsibility using data disclosed on the official websites of companies. We were interested in information related to the environment, community, diversity, human rights, employee relationships, customers, and products. We provide ratings (zero or one) for socially responsible policies.

Implementing a socially responsible strategy in a company involves significant implementation challenges and maybe the redesign of the entire company. To obtain also financial benefits from social responsibility performance, the company should build strong relationships with all stakeholders.

The main question that arises is why do companies seek out political connections? The answer is to have access to information, resources, to enjoy the favorable treatment. (Oliver and Holzinger, 2008). Political connections are good for companies' performance (Faccio, 2006). Some researchers discovered that connections are good when they refer to the political party in power (Goldman et al, 2009) or when involve current politicians (Khwaja and Mian, 2005). Other researchers consider affiliated politicians as necessary resources for the company (Sun et al, 2012).

2. LITERATURE REVIEW

"Boards of directors are difficult to study" (Adams et al., 2010, pages 96–97).

Researchers demonstrated the important role of corporate boards for companies' performance (Judge Jr. & Zeithaml, 1992; Hillman & Dalziel, 2003). In the present research, we treat the board of directors within a corporate governance system. Board size, the board composition, the outsiders, the insiders, independence, executives, political affiliation, their studies, if they work within the company, if they have management studies, if they work within a Ministry, if they are part of another board of directors of a state-owned company, their age, if there are women on board, or if CEO is a woman, for how long they work within the company, if they have a Ph.D. title or if they are professors, all these variables were taken into consideration.

The board is the link between owners and employees and investors and ensures the satisfaction of the interests of all shareholders and should consist of a balanced number of both executive and non-executive and independent directors. The diversity of board members is an important corporate governance issue because different skills are brought to the organization. Also, the board members should have expertise in the relevant areas of the company (OECD, 2016). Members of the board should update the conflict of interest statement. Corporate governance counts for national development because it has an impact on the economic growth of a country (Christiansen, 2013). SOEs have important shares in strategic industry sectors, such as transportation, energy, water, telecommunication (Bernal et al, 2012). The board of directors is considered an important part of the governance structure (Fama and Jensen, 1983, Williamson, 1983, 1984).

A larger board increases company performance (Berle and Means, 1932), while other researchers consider that a smaller board enhances company performance (Donaldson, 1985). Some studies found a negative relationship between the board size and company performance (Yermack, 1996; Eisenberg et al, 1998; Denis and McConnell, 2003; Mak and Kusnadi, 2005; Haniffa and Hudaib, 2006; Pathan et al, 2007), while other discovered a positive link between board size and company performance (Pearce and Zahra, 1992; Dalton, Daily, et al 1999; Pfeffer and Salancik, 2003; Haniffa and Hudaib, 2006; Kyereboah-Coleman and Biekpe, 2006; Setia-Atmaja, 2008; Cheng, 2008; Coles et al, 2008; Al-Shammari and Al-Sultan, 2009; Belkhir, 2009) or no link between board size and company performance (Bonn et al, 2004; Yammeesri and Kanthi Herath, 2010; Al-Saidi and Al-Shammari, 2013).

Another important variable that is taken into consideration is board independence. Independent directors on board help companies by providing external resources (Hillman et al, 2000; Pfeffer, 1972). It is well known that independent directors work for the interest of shareholders and could enhance company performance. A positive relationship between board independence and company performance was discovered by different researchers (Pearce and Zahra, 1992; Daily and Dalton, 1992; Mak and Kusnadi, 2005; Choi et al., 2007). The negative connection between board independence and company performance was discovered by Agrawal and Knoeber (1996); Muth and Donaldson (1998); Lawrence and Stapledon (1999); Muth and Donaldson (1998); Bhagat and Black (2002); Kiel and Nicholson (2003); Belkhir (2009); Weir and Laing (2000). Besides these, Bhagat and Black (2002) established an insignificant link between board independence and company performance.

In previous research, the authors discovered that executive directors positively affect company performance (Yammeesri and Kanthi Herath, 2010). Other researchers discovered a negative relationship between company performance and executive directors (Yermack, 1996) or no influence (Bhagat and Black, 1999). In previous research, authors discovered that non-executive directors positively affect company performance (Pearce and Zahra, 1992; Brickley, Coles, and Terry, 1994; Brown and Caylor, 2006; Rosenstein and Wyatt, 1990; Weisbach, 1988). Other researcher discovered a negative relationship between company performance and executive directors (Agrawal and Knoeber, 1996; Weir and Laing, 2000; Yermack, 1996) or no influence (Bhagat & Black, 2002; Haniffa & Hudaib, 2006; Hermalin & Weisbach, 1991).

Authors found a positive relationship between board diversity and company performance (Carter, Simkins, and Simpson, 2003; Schwartz–Ziv, 2013). More authors found a negative influence on those companies that have more women on board (Lenard et al., 2014; Shrader, Blackburn, and Iles, 1997). Other researchers found a negative association between company performance and board diversity (Adams and Ferreira, 2009).

Researchers are interested also in what effects directors that are part of special groups such as minorities, women, politicians may have onboard and company performance. The literature on the influence of women on boards is substantial (Terjesen, Sealy, & Singh, 2009). There are many studies related to the above variables presented, but only some studies are available on the political affiliation (Becht et al., 2003; Hermalin and Weisbach, 2003; Menozzi, 2009; Adams et al., 2010; Williamson, 2007). The literature does not ignore the political influence of members of the board of directors of companies (Baumgartner and Leech, 2001; Hojnacki et al., 2012, Hillman, 2005). Studies found that by political affiliation companies can obtain different benefits directly or indirectly. The research on political affiliation is still inconclusive. The impact of politicians on boards is just emerging (Faccio, 2006; Hillman, 2005). Some studies obtain a positive effect of political connection on company performance (Goldman, Rocholl, & So, 2009; Li, Meng, Wang, & Zhou, 2008; Faccio, 2006; Johnson & Mitton, 2003). They argue that political affiliation can substitute weak corporate governance. Other researchers discovered that political affiliation has a negative influence in terms of controlling of the board (You and Du, 2012), underperformance (Faccio, 2006; Fan, Wong, & Zhang, 2007), risk of directing wealth for political purpose (Bertrand et al., 2007) other irresponsibility acts that create different conflicts.

The benefits and advantages of politically affiliated directors was an inquiry topic for researchers. Researchers discovered that companies with directors politically affiliated obtain a higher financial performance (Faccio, 2006; Fisman, 2001) and are also bailed out (Faccio, 2006). Li et al 2008 demonstrated that companies with political influence have a bigger performance and have big chances to obtain credit loans. Politically affiliated members on the board can help in counseling, advising, creating channels of communication between the company and its stakeholders (Hillman, 2005).

Researchers focused on the political connections of CEOs members of the board of directors, chairmen, and less on independent directors (Wang, 2015).

The political connection exists in almost all companies around the world (Goldman et al., 2013).

The political connection is an important issue for adopting strategic decisions. (Baron, 2005). Other researchers discovered that political connections have also an impact on different subsidies and governmental aids (Wu et al., 2012a, Adhikari et al., 2006; Chaney et al., 2011; Claessens et al., 2008; Correia, 2014; Cull and Xu, 2005; Dinc, 2005; Faccio et al., 2006; Fan et al., 2007; Houston et al., 2014; Johnson and Mitton, 2003). Some studies developed a cross country research to examine the influence of political connection. (Faccio, 2010, Boubakri et al., 2008, Faccio, 2006). Other researchers developed studies at one country level, mostly focused on US (Correia, 2014; Houston et al., 2014), only a few on European countries, such as France, Italy, Germany, Spain, Poland (Jackowicz et al., 2014; Ferguson and Voth, 2008), or on Asian countries (Dow and McGuire, 2009, Leuz and Oberholzergee, 2006; Bliss and Gul, 2012a; Bliss and Gul, 2012b; Mohamed et al., 2007; Bunkanwanicha and Wiwattanakantang, 2008) and China (Su et al., 2013, Fan et al., 2007).

Political connections refer to politicians, part of political parties, part of the government. The political connection is a strategy used by a company even in countries with high transparency and low corruption. We obtained information on the political contributions of board members from www.integritate.eu and from the integrity statements disclosed on the official websites of the companies that are part of our sample. We extend the present research by considering politically affiliated directors as a resource that can aid a company in managing strategic issues in terms of social responsibility. Politicians could contribute with their skills communication and organization on the implementation of social responsibility actions and activities. We argue that politicians on board of directors contribute to social responsibility implementation by their advice and counseling, preferential access to different resources, or support.

3. METHODOLOGY

To establish our methodology of research first we consulted several articles and prior research on political affiliation in state-owned companies. This step allowed us to understand and to identify better the keywords used in our research, to develop our study. We used the following terms: state ownership, SOE, political connection, political affiliation, state control, the board of directors, political ownership. We conducted a manual search of journals that published articles related to SOEs and political affiliations and we presented the main studies within the literature review section. The main objective of the present research is to analyze the corporate governance structure of state-owned companies from Romania. We investigated more variables for the companies to observe the transparency of the companies and also the timeliness of reporting in terms of corporate governance, especially referring to board structures.

We used as a method of research the observation method, the content analysis method, and the comparative method. We extracted the information from the annual reports, from the official websites of the companies, from the statements, and other official reports.

We selected all state-owned companies, and those wherein the state ownerships are over 50% on January 1, 2020.

Data that were analyzed were: the model of corporate governance, the authority, the structure of the board of directors, the size of the board of directors, the management structure, its size, board diversity, board independence, number of executive directors, the studies of the board members, their political affiliation, their age, their seniority, their academic titles, and positions.

To obtain the established objectives we used the data of 63 non-financial companies in January 2020 from different sectors of activity (air transportation, nuclear power, airports, mining, mechanical engineering, oil and gas, postal services, infrastructure construction, telecommunication, transportation, pharma, electric power). We selected only those companies whose data were available during the study period.

When talking about political bodies, we refer to ministries, state ownership, political party. We include within the category of politically affiliated directors those members of the board that are part of the government, of a political party, or member/candidate of EU Parliament. We didn't include here those who have relationships with political parties or those that have political connections. We search for a list of the affiliated members of Romanian political parties, but there is no public database with the records needed. In principle, in Romania, political party membership is public information that could be found on Interest Statement or at www.integritate.eu.

The study used different secondary data sources. We used annual report analysis for the variables related to company characteristics. Variables related to corporate governance were taken from corporate governance reports, corporate governance sections from the official websites of the companies, or the annual reports of each company. The information related to political affiliations, such as board members affiliation to a political party were extracted from the integrity statement because it is publicly available information. According to some researchers, a company that has more than one board member affiliated to a political party is a politically connected one (Saeed et al., 2014; Faccio et al., 2006; Khwaja and Mian, 2005, Boubakri et al., 2008). The information was cross-checked from the board of directors section from the official websites of the companies (where board members declare their political affiliation) and from the integrity statement published on the website of companies and from the website www.integritate.eu.

The board of directors in a corporate governance structure is not an easy topic to study. The composition of the board of directors was studied within the corporate governance literature, but with a little attention when talking about state-owned companies. The other research questions are does board size matter in SOEs? Do politically affiliated members matter in SOE? Does the board composition matter in SOEs? For these companies what is the impact of board composition, in terms of politically affiliated members of the board of directors on socially responsible actions and activities?

4. RESULTS

The data for the present research was the available information disclosed on January 1st, 2020, and was collected from 2019 annual reports. The annual reports were downloaded from the official websites of the companies.

We consider politically affiliated directors those directors that are identified in the political zone, by observing their present or past activity, that are the members of a political party, or those that participated for elections. Within the literature, some researchers that considered politically affiliated a person that is a member of the parliament, head of a state, associated with a party, or when they have relatives or close friends that are part of a political party (Facio, 2006).

Inside directors are considered those directors that are employed within the company.

Outside directors are the board members that are not employed within the company.

Independent directors are considered outside directors that do not have any connection with the company's management or its shareholders. Some authors consider that is very difficult for an independent director to be considered an outsider. Some examples are represented by lawyers or bankers that could have business relationships with the company (Adams et al, 2010).

The data set comprises the economic and governance variables of 63 Romanian state-owned companies. The sample companies operate at the national level in different sectors and are representative of their sector of the industry, out 13 of 63 companies (21%) are listed at Bucharest Stock Exchange. The data set has a total of 1512 company observations and 368 board directors. Information on corporate governance was collected to make the dataset unique and comprise: the legal form, if the company is listed or not if it represents a strategic one, it is a monopoly for its sector of activity, the model of governance, the authority, the ownership structure, the percentage of equity they own, the name and number of the directors, their position in the board, the number of interim directors, the number of executive and non-executive directors, the number of insiders or outsiders, their studies, their managerial studies, if they are part of a Ministry, if they are part of another board of directors of a state-owned company, their political affiliation, if any, their position, their independence, their age, their seniority, if they have a Ph.D. title or an academic position, their diversity (women on board). Independence was decided as declared in the annual report, or within their curriculum vitae, or on the website of the company, or deducted from their role.

Ownership percentage is the percentage of ordinary shares held by the state. The proportion of outside directors is the number of outside directors on board divided by the total number of directors, leadership structure is 0 if the chairman is CEO. Board size total number of directors on board. Government ownership is 1 if a company has government or ministry stockholdings over 50%. We excluded financial companies that are governed by special regulations. The number of insiders is the number of inside directors on the board.

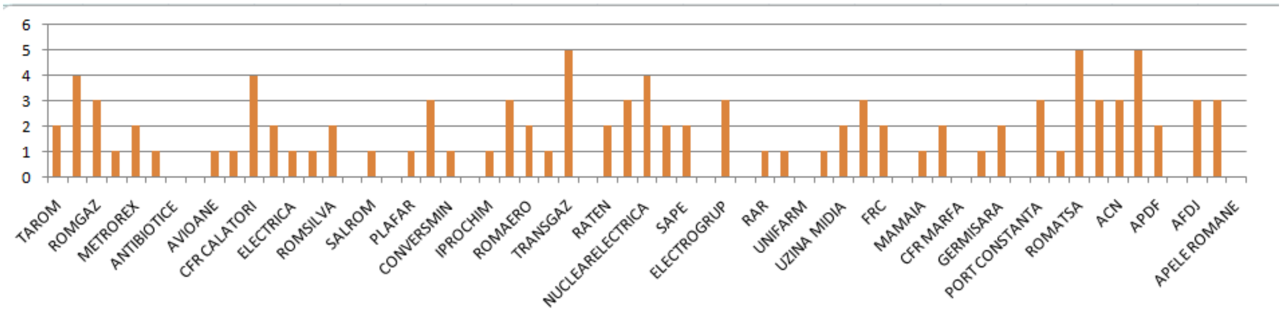
Larger Boards lead to better corporate governance, because of different expertise, skills, and knowledge brought into the board. Some authors discovered there is not a significant association between the board size and corporate performance Dehaene et al. (2001) and Chin et al. (2004). Other researchers consider that bigger boards lead to conflicts (Jensen, 1993, Conyon and Peck, 1998).

Table 1. The political affiliation of the board of directors and information regarding their managerial studies

Ministry	**Percentage of companies in total**	**Political affiliation Mean (median)**	**Management Degree Mean (median)**
MEEMA	42,62%	25%	27%
MTIC	29,51%	36%	43%
MT	8,20%	0	27%
MFP	6,56%	22%	43%
MMAP	4,92%	20%	29%
MS	3,28%	20%	0
BNR	1,64%	0	67%
CDP	1,64%	0	11%
SGG	1,64%	0	20%

Source: the authors

Table 2. The political affiliation of the board of directors and information regarding their managerial studies



Source: the authors

The presence of independent directors within the board of directors leads to more effective monitoring of the board. They adopt decisions in the interest of all shareholders (Jensen and Meckling, 1976), but they are not linked with the increased performance of the company (Coles et al, 2001, Chin, 2004)

Table 3. Board size and independent directors

Ministry	**Percentage of companies in total**	**Board Size Mean (median)**	**The proportion of independent directors (median)**
MEEMA	42,62%	5	39%
MTIC	29,51%	7	15%
MT	8,20%	3	0
MFP	6,56%	7	33%
MMAP	4,92%	5	0
MS	3,28%	6	80%
BNR	1,64%	3	67%
CDP	1,64%	9	0
SGG	1,64%	5	0

Source: the authors

A percentage of 65% of companies from our sample has the chairman different from the CEO. The code of corporate governance recommends that the chairman and CEO position to be held by two different persons, to have a balance of power. To reflect the view of the majority the role of independent chairman is very important (Chen et al, 2005).

Authors found a positive relationship between board diversity and company performance (Carter, Simkins, and Simpson, 2003; Schwartz–Ziv, 2017). More authors found a negative influence on those companies that have more women on board (Lenard et al., 2014; Shrader, Blackburn, and Iles, 1997). Other researchers found a negative association between company performance and board diversity (Adams and Ferreira, 2009).

Table 4. Diversity on the board (women onboard)

Ministry	**Percentage of companies in total**	**Number of Women on Board Mean(median)**	**The proportion of Women on Board size (median)**	**The proportion of companies with women on Board**
MEEMA	42,62%	0	31%	85%
MTIC	29,51%	1	21%	100%
MT	8,20%	3	75%	80%
MFP	6,56%	2	27%	100%
MMAP	4,92%	3	54%	100%
MS	3,28%	1	20%	100%
BNR	1,64%	2	67%	100%
CDP	1,64%	7	78%	100%
SGG	1,64%	1	20%	100%

Source: the authors

Of board members from our sample aged 62 and younger (the average age is 44 years old), 47% are politically affiliated. Not surprisingly, the political affiliation of the board of directors depends on the type of company. We also observe that 47% of members of the board of directors are politically affiliated, of which 93% are female. (Table 4)

The question that arises is how can politically affiliated directors could help in implementing socially responsible actions and activities.

The implementation of a sound social responsibility in companies with politically affiliated members of the board of directors is reflected in Figure 1. The data were collected through the websites of the companies, from different statements and reports, such as Comply or Explain Statement, Code of Conduct, Sustainability Report.

Politicians may have communication management skills that could help in implementing those strategies.

The implementation of a sound socially responsible management strategy is difficult. Such a strategy may require knowledge about legal and political requirements. Politicians with experience or a background in social responsibility may have a better understanding of the state of the art of social responsibility. After exploring the documents regarding the social responsibility and the political affiliation of the members of the board of directors we practically observed that some companies with politically affiliated members of the board are more involved in socially responsible action and activities. It is important also the nature of state-owned companies. They do not have to compete with anyone on an open market. But it is important to mention that they are part of a strategic field of the economy.

There are sectors of activity where companies that are part of have members of the board of directors that do not have a Ph.D. degree and here we can mention MT MS BNR CDP SGG.

Companies that have a different authority have between 17% (MTIC) and 44% (MFP) of the members of the board of directors with a Ph.D. degree. (Table 5)

Table 5. The politicians part of the board that have a Ph.D. degree

Ministry	Percentage of companies in total	Political affiliation Mean (median)	Number of politicians with Ph.D. on Board Mean (median)
MEEMA	42,62%	25%	25%
MTIC	29,51%	36%	17%
MFP	6,56%	22%	44%
MMAP	4,92%	20%	20%

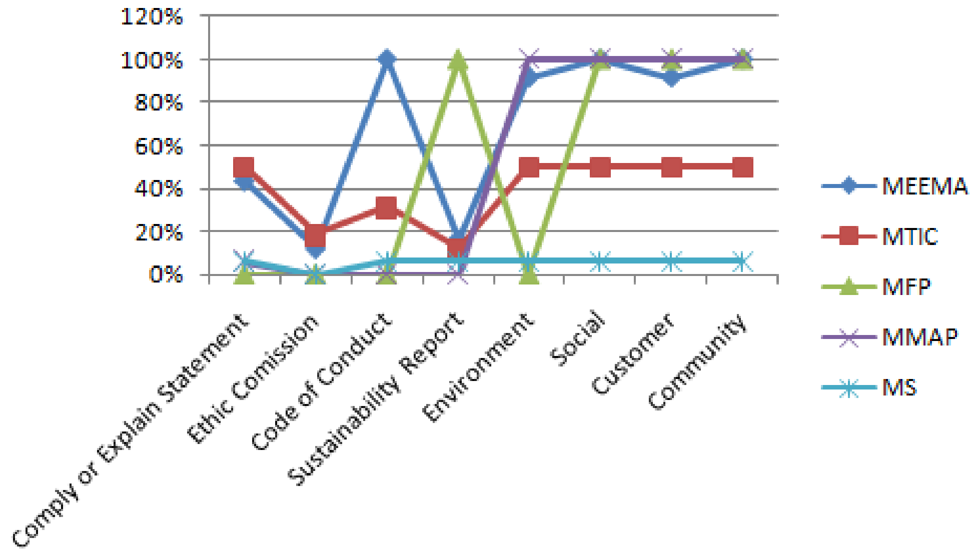
Source: the authors

Table 6. The politicians part of the board that is part of another board of an SOE

Ministry	Percentage of companies in total	Political affiliation Mean (median)	Number of politicians within another SOE Board Mean (median)
MEEMA	42,62%	25%	39%
MTIC	29,51%	36%	29%
MFP	6,56%	22%	22%
MS	3,28%	20%	60%

Source: the authors

Figure 1. The implementation of a sound social responsibility in companies with politically affiliated members of the board of directors



Source: the authors

Politically affiliated directors may use their reputation, experience, and network to protect company assets. Politically affiliated directors could enter within a board of directors because they can bring resources for social responsibility implementation. Our results show that the problem is not for politicians to be part of a board, but for them to not take such decisions in terms of social responsibility. We can confirm that the behavior of politicians on board is difficult to observe and verify.

Politically affiliated CEOs could influence the strategic decisions of companies (Li and Qian, 2013). Future research could be represented by the benefits that politically affiliated members of the board of directors could bring.

5. CONCLUSIONS

Our study presents the effects of political presence within the board of directors and how board composition and political connection in state-owned companies from Romania, could represent a catalyst for social responsibility.

Results show a negative impact on companies' social responsibility actions and activities. We argue that the problem is not for politicians to be part of a board, but for them to not take such decisions. The behavior of politicians on board is difficult to observe and verify. A challenge could be studying the board changes and political affiliation over time, before and after new elections. In this regard, it is important to monitor if companies with politicians on the board have different behavior in terms of social responsibility actions and activities, most important when they are part of the ruling party.

Researchers asked whether SOEs and politically connected companies are different in terms of their involvement in socially responsible actions and activities.

Within the present paper, we discussed the potential contributions that politicians could bring within a company if they are part of the board of directors to implement socially responsible strategies.

We examined the corporate governance in state-owned companies from Romania, to improve social responsibility strategies. We observed that the board of directors is composed by 7 members and sometimes all of them are politicians When referring to the board it seems to be more important the board size than the board composition the number of politicians on board turns out to harm the social responsibility actions and activities of Romanian SOE. The article investigates if political connections are important in Romania, by using a hand-collected database onboard characteristics. The data set includes governance, economic, and social responsibility variables of Romanian SOEs surveyed in 2020. The sample companies operate at the national level in different sectors of activities, such as electricity, water, gas.

The research investigates the influence of the politicians on the board of directors. The study brings a contribution to strategic management theory and practice by demonstrating that politicians from the board of directors contribute to strategic management. The government has still an influence on corporate boards, that are expected to have higher performance, due to the importance of government to business. The main goal of companies is to maximize shareholder wealth. So, companies often engage in actions and activities designed to serve the communities in which they activate.

Politically affiliated CEOs could influence the strategic decisions of companies (Li and Qian, 2013). Future research could be represented by the benefits politically affiliated members of the board of directors could bring.

Some recent studies suggest that state ownership brings a strategic resource for the companies (Grosman et al., 2016; Musacchio et al., 2015). State ownership and political affiliation are exposed to different pressures.

Future research should investigate what prompts certain state-owned companies, that have within the board of directors politically affiliated members to engage in CSR actions and activities. Further research should focus also on the changes in politics in countries because state ownership could fluctuate depending on elections. It is desirable to understand the political mechanisms behind the change and to study how companies could anticipate them for their future strategies.

Another future research could be represented by studying the managerial behavior and interests in SOEs if executives share their political views and expertise.

We would like to explore also how politically affiliated members can mitigate climate change.

Maybe social responsibility does not have any link to value creation in the case of state companies. Ethical and socially responsible behaviors developed by state-owned companies are crucial to the integrity of the economic system, both at the national and international levels.

Political affiliation represents a natural measure of preferences for implementing social responsibility. Companies place more emphasis on CSR actions and activities, such as employee protection, anti-discrimination laws, environmental protection, and helping the poor and disadvantaged.

Our research contributes to the literature on corporate governance, onboard performance, by extending the investigation of directors' backgrounds from a different perspective. We also contribute to the literature on social responsibility governance by exploring the influence of members of the board of directors, those with a political background, on social responsibility reporting at the company level. After analyzing a total of 1512 company observations and 368 board directors, data related to corporate governance of 63 Romanian state-owned companies, the results show that appointments of politically affiliated directors within the boards are symbolic acts and do not change the social responsibility strategies of companies. Companies under the authority of BNR, SGG, CDEP are not involved in such actions and activities.

There is a consistent room for improvement in corporate governance reporting related to political influence. One possible future research is to replicate the study with a larger sample, with companies from different countries.

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APPENDIX

NO	COMPANY	AUTHORITY
1	CONPET	THE MINISTRY OF ECONOMY (ME)
2	ROMGAZ	THE MINISTRY OF ECONOMY, ENERGY AND BUSINESS ENVIRONMENT MEEMA
3	CE OLTENIA	
4	ROMARM	
5	AVIOANE CV	
6	LOTERIA	
7	ELECTRICA	
8	SNAM	
9	SALROM	
10	CNCIR	
11	PLAFAR	
12	TRANSELECTRICA	
13	CONVERSIM	
14	SN 2MAI	
15	IPROCHIM	
16	IAR BV	
17	ROMAERO BRASOV	
18	TRANSGAZ	
19	CUPRUMIN	
20	RATEN	
21	NUCLEARELECTRIC	
22	SAPE	
23	ELECTROGRUP	
24	OIL TERMINAL	
25	HIDROELECTRICA	
26	UZINA MIDIA	
27	MONETARIA	NATIONAL BANK OF ROMANIA (BNR)
28	RAMO	CDEP
29	CEC BANK	THE MINISTRY OF PUBLIC FINANCE (MFP)
30	CNIN	
31	FRC	
32	EXIMBANK	
33	ROMSILVA	THE MINISTRY OF WATER, ENVIRONMENT AND FORESTS (MMAP)
34	APELE ROMANE	
35	ANM	
36	UNIFARM	THE MINISTRY OF HEALTH (MS)
37	ANTIBIOTICE	
38	MAMAIA	THE MINISTRY OF TRANSPORT (MT)
39	CNIT	
40	NEPTUN OLIMP	
41	GERMISARA	
42	LIDO	
43	TAROM	MINISTRY OF TECHNOLOGY, INFORMATION COMMUNICATIONS MTIC
44	POSTA ROMANA	
45	AEROPORTURI BUCURESTI	
46	METROREX	
47	CFR CALATORI	
48	RAR	
49	APDM GALATI	
50	CNAIR	
51	CFR MARFA	
52	AEROTIM	
53	APDF	
54	AFDJ	
55	TCCFR	
56	PALAT	
57	ACN	
58	CAA	
59	AEROPORT MK	
60	ROMATSA	
61	PORT CONSTANTA	
62	CNCF	
63	RA APPS	THE GENERAL SECRETARIAT OF THE GOVERNMENT (SGG)

IS THE RESEARCH ON CORPORATE GOVERNANCE AND PERFORMANCE DIFFERENT? A SYSTEMATIC LITERATURE REVIEW ON EMERGING EUROPEAN COUNTRIES

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Abstract
The objective of this study is to debate on the relevance that the researchers from nine European emerging countries has given to the study of the relationship between corporate governance and corporate performance. A structured literature review was conducted to analyse the papers published by several authors in European journals or presented at international conferences during 2002–2018 period. The main research proposition is to identify the particular interest of researchers, their work visibility and features, as well as the trend in the literature for this area of research from an emerging country perspective. The results show that most of the studies engage a quantitative methodology, focusing on the corporate governance policies used by companies. This paper provides an approach to discover under-investigating topics and methods, thus being a starting point for researchers who will further study this subject. It may have direct implications especially in the academic environment of the European emerging countries.

Keywords: *structured literature review, corporate governance, corporate performance, emerging countries*

1. INTRODUCTION

In the last twelve years, the academic environment has paid special attention to corporate governance and corporate performance. This relationship has been analysed at international level through several studies, such as Core et al., 1999; Brick et al., 2006; Campbell and Mínguez-Vera, 2007; Topak, 2011; Guest, 2015; Duru et al., 2016; Hassan et al., 2016; Kalsie and Shrivastav, 2016; Kaur and Vij, 2018; Paniagua et al., 2018. In these studies, the most used metrics to measure corporate governance are: board size, Chief Executive Officer's (CEO) duality, ownership structure, ownership concentration, managers' revenue, corporate governance index. Related to various governance variables, the most used performance measures are: Tobin's Q, return on equity (ROE), return on asset (ROA), return on investment (ROI) and economic value added (EVA).

A structured literature review (SLR) has a limited number of papers published on this topic (Suess, 2014; Ng'eni, 2015; Knut, 2016; Azila-Gbettor et al., 2018, etc.), even if a numerous research papers was published in the journals or conferences. By conducting a SLR, the researcher identifies and systematizes the literature on a particular research topic, identify the interest that researchers have given to study a specific area and provides new insights into the type of the researched relationships in the particular setting.

This paper focuses on the research conducted with regards to the relationship between corporate governance and corporate performance, as well as the interest on this field for the authors from nine European emerging countries by conducting a structured literature review. To study this relationship, a review of the publication indexed in the Web of Science database was carried out. This database is worldwide recognized and covers a large number of journal journals and international conferences, highly considered for academics' assessment in Eastern-Europe countries (Lungu et al., 2016; Albu and Lungu, 2012; Glanzel, 2012; Kearney, 2012). By applying a SLR methodology, the main features of the research are identified. The three stages that must be followed to perform a SLR (Tranfield et al., 2003) are applied: (1) planning the review, (2) conducting the review and (3) reporting and dissemination.

Considering the corpus of the literature, this paper approaches three research questions, relative to the corporate governance and the performance economic literature:

RQ1. How have the corporate governance and performance area of research developed in recent years within European emerging countries?

RQ2. The relevance of the European emerging countries literature on the relationship between corporate governance and performance?

RQ3. Which are the main characteristics of the European emerging countries literature on the relationship between corporate governance and performance?

- *RQ3.1. Are there similarities of the research theories used in various European emerging countries?*
- *RQ3.2. Are there similarities of the research methodologies, methods and databases used in various European emerging countries?*
- *RQ3.3. Are there similarities of the most used metrics for measuring corporate governance and performance in the European emerging countries?*

Using descriptive and frequency analyses, the key characteristics and results of this research field were presented, being discussed at the specifics of international research on this topic. According to Massaro et al. (2016), new research questions, critical reflection, new perspectives and research paths can be developed as a result of research. By using this method, by examining the structure and characteristics of published works in this field, one can respond to the need to systematize and identify existing research in this field (Gonzales-Bustos and Hernández-Lara, 2016), the research results thus providing an image of overall on the relevance of research in this field.

Future research directions may attempt broaden the sample of the papers analysed in the sense of extending it to other Eastern European countries with the purpose of finding possible patterns of research in this geographical area. Moreover, future research could also investigate the tools needed by different companies to improve their current corporate governance mechanism so as to have a positive impact on the company's performance.

This paper is organized as follows: Section 2 includes an overview of the corporate governance and performance studies, offering an international background. In Section 3, the key methodological aspects of SLR method are explained, while in Section 4 the research findings are discussed. Section 6 is dedicated to the concluding remarks of this study.

2. LITERATURE REVIEW – CORPORATE GOVERNANCE AND PERFORMANCE BACKGROUND

Over the past twelve years a lot of emphasis has been placed at the international level, after the biggest economic scandals from USA both on major reforms (Brown and Caylor, 2009) and on the importance of studying corporate governance (Tarraf, 2010). The corporate governance was for the first time defined in the Cadbury Report (1992, p. 14) such as „the system by which companies are directed and controlled". Over the time, corporate governance has been defined in many ways. Shah et al., (2011, p. 516) define corporate governance as the manner in which stakeholders and other interested parties are influenced by the management board. Larcker et al. (2007, p. 964) define corporate governance as ,,the set of mechanisms that influence the decisions made by managers when there is a separation of ownership and control". Gonzales-Bustos and Hernández-Lar (2016, p. 34) consider that "the main goal of good governance in companies is to protect shareholders and other stakeholders from the managerial discretion".

Over time, an extensive number of researchers has investigated the importance of corporate governance for a company's performance. The relationship between corporate governance and financial performance was grounded on various analysis' frameworks designed on particular settings and criteria. The most used metrics for measurement of the relationship between corporate governance and corporate performance, research method, database and other variables are presented in table 1.

Table 1. Research focused on carrying out a SLR in the corporate governance area

Authors	**Subject**	**Corporate governance metrics**	**Performance metrics**	**Research method**	**Database and sample used**	**Main findings**
Guest (2015)	The impact of board size on firm performance	Board size characteristics	ROA, Tobin's Q and Share return	Regression/ econometric models	DataStream database; 2,746 UK listed firms over 1981-2002	The board size has a negative impact on firm performance.
Topak (2011)	The impact of board size on firm performance	Board Size	Tobin's Q, ROA, ROE	Econometric models	Istanbul Stock Exchange (ISE); 122 Turkish firms over 2004-2009	There is no relation between the board size and the firm performance for Turkey
Kalsie and Shrivastav (2016)	The relationship between the board size and firm performance	Board Size	Tobin's Q, MBVR, ROA, ROCE	Regression/ econometric models	145 non-financial companies listed in the NSE CNX 200 Index of India, over 2008 - 2012.	The board size has a positive and significant impact on the firm performance
Duru et al. (2016)	The performance effect of duality and its interaction with board independence in a dynamic environment	CEO duality, Board Independence, Board Size, Gender Diversity	ROA, ROE, ROS	Regression/ econometric models	ExecuComp, ISS and Compustat databases, 6848 firm-year observations and 950 unique firms	CEO duality has a negative impact on firm performance. If the proportion of independent directors rises then may exist a positive effect on performance
Paniagua et al. (2018)	The role of corporate governance in the financial performance of firms	Ownership Dispersion, Board members	ROE, Total assets	Regression/ econometric models	Orbis database; 1207 companies from 59 countries across 19 sectors for the period 2013 to 2015	The results provide limited evidence of a nonlinear relationship between the managerial share ownership and the financial performance.
Kaur and Vij (2018)	The study examines the various practices of CG for banks in India	Corporate Governance Index (GGI)	ROA, Tobin's Q, EVA	Regression/ econometric models	39 banks listed on the National Stock Exchange in India from 1st April, 2013 to 31st March 2014.	CGI is significantly and positively associated with financial performance of banks
Hassan et al., (2016)	The relationship between performance and corporate governance	Board size, No of meetings, audit committee and institutional ownership and foreign ownership	ROE, ROA, Tobin's Q, MBVR,	Regression/ econometric models	Palestinian Stock Exchange with a sample of 27 companies	The corporate performance is negatively associated with corporate governance

Based on the literature review conducted, it was identified that there is a limited number of studies that include a SLR on the corporate governance concept and its relationship with corporate financial performance. Gonzales-Bustos and Hernández-Lara (2016) conducted a SLR on the relationship between corporate governance and innovation, by analysing 163 papers published between 1990 and 2014 and indexed within Web of Science database. The results revealed that there is a small number of papers published until 2004 and that previous researches showed no achieved consensus regarding the mechanism of corporate governance and innovation. E-Vahdati et al. (2019) conducted a SLR on the relationship between corporate governance and sustainability integration by analysing 27 papers indexed within Scopus database. The findings show that the integration of governance into sustainability is interpreted differently. Additionally, Oehmichen (2018) conducted a SLR to identify the effect of corporate governance mechanisms in the Asian emerging markets on a firm outcome. The author analysed a total 84 papers. Azila-Gbettor et al. (2018) conducted a SLR on the extent of knowledge on corporate governance structures and performance relation within family owned firms. The authors analysed 159 papers published between 2000-2016 and indexed within Google Scholar database.

3. RESEARCH METHODOLOGY

3.1 Research method

This study aims to conduct a structured literature review of the studies that analysed the relationship between corporate governance and corporate performance in nine Central and Eastern European countries (Romania, Bulgaria, Serbia, Hungary, Ukraine, Slovenia, Czech Republic, Slovakia and Croatia). There is limited research focused on carrying out a structured literature on this relationship (Ng'eni, 2015; Knut, 2016; Azila-Gbettor, 2018). Massaro et al. (2016, p. 769) identified that are various methods for conducting a literature review, such as: „systematic review, meta-analysis, rapid review, (traditional) literature review, narrative review, research synthesis, and SLR". According to Becheikh et al. (2006, p. 645), the main purpose of this method is „to identify key scientific contributions in a field and its results are often descriptively presented and discussed". Tranfield et al. (2003, p. 214) identified three stages that must be followed to conduct a SLR: planning the review, conducting a review and reporting and dissemination. According to Caraiani et al. (2018, p.539), this method has a great flexibility, these steps don't need to by chronologically followed, the researchers can develop new criteria as they advance with the study.

Planning the review (the plan) is the first stage that generally includes three steps: (1) identification of the need for review, review proposal preparation and development of a review protocol. The plan must contain the key that help the researcher to find the relevant information about the sample, the topics, the strategy of choosing the relevant studies and some criteria that may help to include or exclude some papers (Tranfield et al. 2003, p. 214).

The second stage include the next steps: identifying the main purpose, identifying the keywords, selection of database, period and region, selection of studies, data extraction and data synthesis. The last stage in conducting a SLR contain two steps: the report and recommendations and the practically evidence (Tranfield et al. 2003, p. 214).

In order to carry out this research, for each accessed article, several specific aspects were followed, such as: specific characteristics of each paper (number of citations, number of references, affiliation of first authors), keywords (how many times the two words appear in each article: governance and performance), the methodology (qualitative or quantitative) that the researchers used it and the research methods used.

3.2 Research database

Once the topic of the research has been delimited, a comprehensive list of studies has to be identified. The second stage of SLR design is further addressed:

- **Search keywords**. The keywords chosen for this study, to use from the outset are: corporate governance, performance, firm performance and company performance. The main reason for choosing these keywords is to identify all articles written by researchers from all nine countries included in the sample, that relates to broad and generic topics on corporate governance and corporate performance, based on a very clear motivation
- **Database selected**. The database selected for the research is Web of Science, a multidisciplinary platform, connecting regional and specialty data, allowing to trach ideas across different disciplines over time. The purpose of the search in the database is to identify papers written by authors from the selected countries on the relationship between corporate governance and corporate performance.
- **Period and region**. The searched span-time started at 2000 until the end of 2018, because Web of Science, accessed from distance, allowed to search for articles published until 2018 inclusive. The search initially generated 535 publications. Nine countries were included in this study Romania (RO), Bulgaria (BG), Serbia (SRB), Hungary (HU), Ukraine (UKR), Slovenia (SLV), Czech Republic (CZ), Slovakia (SVK) and Croatia (CR).
- **Selection of studies**. Download of relevant information on the returned articles: information about the authors, publication yeas, used keywords, abstract, number of citations. After removing the duplicates and analysing the abstracts, the database was narrowed to 268 papers, published over the 2002–2018 period.
- **Data extraction and data synthesis**. To conduct a structured analysis, the full content of each article was searched. 172 out of 268 articles were downloaded in full content from the journal or conference website, as they were of open access type, others were found on Google Scholar, or on Research Gate, while, for the restricted access articles, emails were sent to authors or to the conference/journals. Following the content analysis performed, the final database was created using the key words combined in three ways as presented in the Table 2.

Table 2. The breakdown of keywords' combinations and number of papers

Keywords' combination	**Papers initially selected**	**Papers considered in the final database**
Corporate Governance and firm performance	102	76
Corporate Governance and company performance	165	60
Corporate Governance and performance	268	36
Total	**535**	**172**

The final number of 172 articles, considered for the in-depts analysis, was downloaded in their complete format.

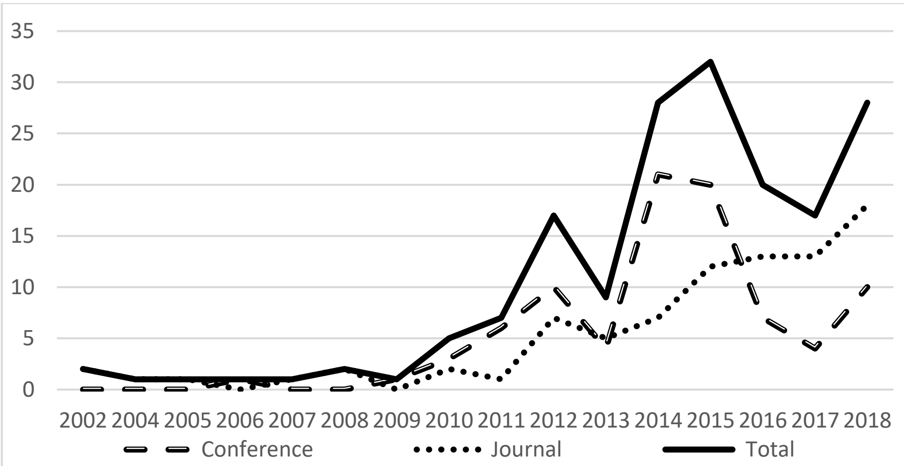
4. RESULTS

4.1 Descriptive and frequency analysis of literature on relationship between corporate governance and performance

In order, the evolution in time was first observed and analysed to debate on the relevance that the authors gave to the research on this relationship. The trend and the structure of the articles published are presented in Fig. 1 and further details are included in Table 3. Considering the type of publication, findings show that, during 2002–2018, out of the 172 articles included in this analysis, 87 articles were presented at conferences and 85 articles were published in internationally recognized journals. More details about each country are presented in Table 4.

The results illustrate that the first publications in this field dates from 2002 and counts 2 articles. The articles are published in two journals: one article in published in Communist and Post-Communist Journal and the other one is published in Studies Journal of Economic Perspectives and address the features of corporate governance and performance. Hrovatin and Ursic (2002) studied the influence of ownership on the company performance by using an econometric model applied on 488 Slovenian industrial companies. Svejnar (2002) studied the strategies and outcomes of the first dozen years of the transition on five central European countries by following aspects of corporate governance.

Figure 1. Evolution of the number of papers per year and type of publication



Source: Web of Science Full Report, accessed at 24.07.2020

Table 3. Number of papers published in conference proceedings or journals

Year Type	`02	03-07	`08	`09	`10	`11	`12	`13	`14	`15	`16	`17	`18	Total	Yearly average
Conference	0	1	0	1	3	6	10	4	21	20	7	4	10	87	5,44
Journal	2	3	2	0	2	1	7	5	7	12	13	13	18	85	5,31
Total	**2**	**4**	**2**	**1**	**5**	**7**	**17**	**9**	**28**	**32**	**20**	**17**	**28**	**172**	**10,75**

Table 4. Number of papers published in conference proceedings or journals in each country

Country	Conference		Journal		Total	Frequency
	No of papers	Frequency	No of papers	Frequency		
Bulgaria	0	0%	1	1%	1	1%
Croatia	5	3%	8	5%	13	8%
Czech Republic	18	10%	18	10%	36	21%
Hungary	0	0%	5	3%	5	3%
Romania	62	36%	39	23%	101	59%
Serbia	1	1%	3	2%	4	2%
Slovakia	0	0%	3	2%	3	2%
Slovenia	0	0%	6	3%	6	3%
Ukraine	1	1%	2	1%	3	2%
Total	**87**	**51%**	**85**	**49%**	**172**	**100%**

As presented in Figure 1 and Table 3, during the early stages of the studied period, the number of publications conducted by the authors from the countries included in this study on this topic was limited. In the first nine years (2002–2010 included) of the research period, 14 articles were published, 9 in journals and 5 papers were included in conference proceedings. Starting with 2011, the evolution began to change, resulting in an overall increasing trend until 2015. The year 2015 registers a pick, with the highest number of papers published for both journals (12 articles) and conference proceedings (20 articles). Following this year, the interest among the researchers on the study of the relationship between corporate governance and performance decreased much more for journals as compared to the articles published in the conferences. Another pick registered only for journal publications for the year 2018, with 28 articles published. Thus, an oscillating and inconsistent evolution may be noticed in the interest of the European researchers for this topic, with an average of 10,75 articles/year from 2002 to 2018. More than 80% out of 172 papers are published by the researchers from Romania, with 59% (representing 101 papers) and Czech Republic with 21% (representing 26 papers.

4.2 Descriptive and frequency analysis of authors' affiliation

Tables 5 and 6 illustrate a breakdown analysis in which features of articles were included, such as the number of authors, the number of articles with details on the affiliation of authors, and the top eleven universities with authors interested in corporate governance and performance area of research.

Table 5. Papers' characteristics – author affiliation and papers

Papers' characteristics	Number	Frequency
Total number of researchers, of which:	421	100%
Number of authors affiliated to the countries included in the study	380	90%
Number of authors affiliated to the other countries included in the study	41	10%
Total number of papers, of which:	172	100%
Number of papers with the first author to the countries included in the study	164	95%
Number of papers with the first author affiliated other countries included in the study	8	5%
The average number of authors for an article	2,45	-

The total number of researchers who participated in the construction of the 172 papers included in this analysis is 421 researchers, of which 380, representing a percentage of 90%, are part of the countries included in this study and 41 of them, representing a percentage of 10%, are affiliated to the universities out of the countries included in this study. The average number of researchers involved in this research area is 2.45 authors per article. Out of the 172 published papers, a number of 164 articles belong to all researchers affiliated to the countries included in the study, representing 95%, of their total and only 8 articles, representing 5% of the total analysed papers have a mix of affiliated authors. There are 8 first authors affiliated to the other countries that collaborated with the authors from the countries included in this study on the topic of the relationship between corporate governance and performance: 2 authors are affiliated to the universities from Germany and one author from each of the following countries: Kosovo, France, Spain, Turkey, Untied States of America and Iraq.

Table 6. The university breakdown analysis with the first author affiliated to universities from the countries included in the study

Universities	**Country**	**No of articles**	**Frequency**	**Cumulated frequency**
Bucharest University of Economics Studies	Romania	42	26%	26%
Babes-Boyai University of Cluj-Napoca	Romania	21	13%	38%
Brno University of Technology	Czech Republic	12	7%	46%
Alexandru Ioan Cuza University of Iasi	Romania	9	5%	51%
University of Economics	Czech Republic	6	4%	55%
Charles University	Czech Republic	5	3%	58%
University of Zagreb	Croatia	4	2%	60%
Stefan cel Mare University of Suceava	Romania	4	2%	63%
University of Oradea	Romania	4	2%	65%
Ljubljana University	Slovenia	4	2%	68%
Mendel University	Czech Republic	4	2%	70%
Others Universities	#N/A	49	30%	100%
Total		**164**	**100%**	-

A top of 11 universities with the author affiliated to the countries included in the study interested in corporate governance and performance research area includes 115 (70%) of the research conducted. The universities from Romania concentrates most of the papers published in this area (80 papers, as 49% of the total). The papers conducted by Romanian authors are affiliated to the Bucharest University of Economic Studies in Bucharest, with 42 papers (26%), Babes-Boyai University of Cluj-Napoca with 21 papers (13%), Alexandru Ioan Cuza University of Iasi, University of Oradea and Stefan cel Mare University of Suceava. The first two places are taken by the Romania Universities and Brno University of Technology takes the third place, form Czech Republic with 12 papers out of 164, representing 7% of the total papers. All the other universities are represented by 9 papers or less.

4.3 The relevance of the literature on the relationship between corporate governance and performance

Table 7 illustrates the number of citations for the articles published by the authors in the area of corporate governance and performance during 2002–2018. The total number of citations is 845 for all the articles of the published in the analysed period. Considering the sample of data, the average citation score registers a value of 10,11 citations/year and of 4,91 citations/paper (845 citations for a total of 172 papers). The most citations belong to the articles published in a journal (762 citation out of 845), representing 90,2% of the total citations and only 9,8% out of total belongs to the conferences. In 2003, the articles analysed stared to be cited and count 6 citation with a maximum number of citations in 2018, when it counts a total number of citations of 184.

Table 7. Number of citations by type of publication

Year	Type of publication					
	Conference		Journal		Overall	
	No of citations	%	No of citations	%	No of citations	%
2002	0	0,0%	0	0,0%	0	0,0%
2003	0	0,0%	6	0,3%	6	0,3%
2004	0	0,0%	5	0,3%	5	0,3%
2005	0	0,0%	10	0,6%	10	0,6%
2006	0	0,0%	18	1,0%	18	1,0%
2007	0	0,0%	22	1,3%	22	1,3%
2008	0	0,0%	37	2,2%	37	2,2%
2009	0	0,0%	30	1,7%	30	1,7%
2010	0	0,0%	39	2,3%	39	2,3%
2011	3	0,2%	56	3,3%	59	3,4%
2012	5	0,3%	39	2,3%	44	2,6%
2013	5	0,3%	48	2,8%	53	3,1%
2014	4	0,2%	54	3,1%	58	3,4%
2015	11	0,6%	69	4,0%	80	4,7%
2016	10	0,6%	76	4,4%	86	5,0%
2017	21	1,2%	93	5,4%	114	6,6%
2018	24	1,4%	160	9,3%	184	10,7%
Total	83	9,8%	762	90,2%	845	100%

Table 8. Top 5 most cited papers

No	Title	Authors	Publication year	No of citations	Average citations per year
1	Transition economies: Performance and challenges	Svejnar	2002	205	12,06
2	Dominant shareholders, corporate boards, and corporate value: A cross-country analysis	Dahya et al.	2008	180	16,36
3	Origin and concentration – Corporate ownership, control and performance in firms after privatization	Hanousek et al.	2007	56	4,67
4	Ownership concentration and corporate performance on the Budapest Stock Exchange: Do too many cooks spoil the goulash?	Earle ey al.	2005	43	3,07
5	Gender and management on Spanish SMEs: an empirical analysis	Minguez-Vera and Martin	2011	29	3,63
Average citation of the top five papers cited in the literature				513	7,96

Table 9. First most cited paper from each country

No	Author	Affiliated to	Country	Publication Year	No of citations	Average citation per year
1	Docekalova et al.,	Brno University of Technology	Czech Republic	2016	25	8,33
2	Zaharia et al.,	Bucharest University of Economics Studies	Romania	2010	17	1,89
3	Pahor et al.,	Ljubljana University	Slovenia	2004	14	0,93
4	Skare and Golja	Juraj Dobrila University of Pula	Croatia	2012	7	1,00
5	Blendinger and Michalski	Technical University of Kosice TUKE	Slovakia	2018	3	3,00
6	Ahmad et al.,	University of Debrecen	Hungary	2018	1	1,00
7	Muravyev et. al	Institute for the Study of Labor	Ukraine	2010	1	0,11
8	Avdalovic and Milenkovic	University of Novi Sad	Serbia	2017	1	0,50
Average citation of the first most cited papers in the literature from each country					69	2,10

Note. A synthesis based on the information extracted from Web of Science database

The most cited article, considering the total number of citations, is that published by Svejnar (2002) in the Studies Journal of Economic Perspectives with 205 citation. The author studied the strategies and outcomes of the first dozen years of the transition on five central European countries by following aspects of corporate governance. The most cited article, considering the yearly average, with a score of 16,36 citations per year, is published by Dahya et al. (2014, p. 73) in Journal 0f Financial Economics. They studied the relation between corporate value and board composition in firms with a dominant shareholder. By using a quantitative methodology represented by an econometric model, their findings ,,suggest that a dominant shareholder, were he so inclined, could offset, at least in part, the documented value discount associated with weak country-level shareholder protection by appointing an independent board".

Table 9 present the 1st most cited paper on each country, by excluding the papers presented in table 6. Considering the citation for each country, the most cited paper is the article of Docekalova et al., (2016). By using an econometric model, they presented a model for the measurement of corporate sustainability and the paper is published in Ecological Indicators. Zaharia et al., 2010 writes the second most cited article with 17 citation in eight years and an average of 1,89 citation/year and the paper is published in a Romanian journal (Amfiteatru Economic). It is important to be noted that the papers written by Bulgarian researchers has no citations.

4.4 Advanced analysis of the literature on the relationship between corporate governance and performance

The top three most used theories in corporate governance and performance area are presented in Table 10. The Agency theory is the most used, as found within 27 articles (15.6% of the total). According with this theory, the manager is focused on maximizing his own interests and is no longer exclusively concerned with achieving shareholders' goals, thus creating a state of conflict. The second most used is the Stakeholder Theory, found within 5 articles (2.9%), from the perspective of corporate governance. The stakeholder theory encourages managers to ensure that the board identifies the interests, views and expectations of all individuals and groups with an interest in the company's activity. The third one, however less used by researchers is the stewardship theory, „according to which agents acts on behalf of shareholders, whereas stewards act on behalf of all stakeholders" (Prodan-Palade and Tanase, 2014, p. 798).

Table 10. Top three most used theories in the articles

Theory	No. of articles	Emerging European countries
Agency theory	27	CR, CZ, HU, RO and SLV
Stakeholders theory	5	RO
Stewardship theory	4	RO

The quantitative methodology is the most used by the researchers in the corporate governance and performance area, representing 73% (126 papers out of 172). The authors used descriptive statistics; econometric models or quantifiable-answered questionnaires for measure this link. The qualitative research methodology cover 17% of the papers (30 out of 172). Results show that 14 papers didn't present any research methodology (Table 11).

Table 11. Research methodology

Research methodologies	No. of articles	Frequency
Quantitative	126	73%
Qualitative	30	17%
No research methodology	14	8%
Total papers	**172**	**100%**

Table 12 presents more details regarding the research method. A variety of the research methods are used by the authors but the most common one is the regression/econometric analysis, applied in 45% out of the papers analysed for this study, used by the researchers from all countries. It is followed by the descriptive statistics (with 12%) and descriptive analysis (with 8%). The questionnaires and content analysis are employed in other 17 papers.

Table 12. Research method

Research method	No. of articles	Frequency	Emerging European countries
Regression/Econometric models	78	45%	All countries
Descriptive statistics	21	12%	CR, CZ, HU, RO and SLV
Descriptive Analysis	13	8%	CZ and RO
Questionnaires	9	5%	CZ, RO and SRB
Content analysis	8	5%	CZ, RO and SVK
Literature review	5	3%	CR and RO
Reports Analysis	4	2%	RO
Case study	3	2%	RO and SVK
Comparative analysis	3	2%	CR and RO
Other specified methods	13	8%	CZ and RO
No specified method	15	9%	CR, CZ, RO, SLV and UKR
Total papers	**172**	**100%**	

The research methods and methodology analysis generated an in-depth analysis of the characteristics of the population aiming at the relationship between the corporate governance and the corporate performance. Table 13 illustrates that the studies conducted by the researchers from the countries included in this study are largely focused on the analysis of companies (more than 70% of the studies), but they also focus on the analysis of articles and issues related to national and international regulations.

Table 13. Samples' characteristics associated with the research method

Research method	Studied population	No. of articles	Frequency	Research Methodology type
Regression/Econometric models	Companies	69	40%	Quantitative
	Countries	1	1%	
	Not Specified	6	3%	
Descriptive statistics	Companies	20	12%	Quantitative
	Not Specified	1	1%	
Descriptive Analysis	Companies	3	2%	Quantitative
	Law	1	1%	
	Not Specified	9	5%	
Questionnaires	Companies	8	5%	Quantitative
	Respondents	1	1%	
Content analysis	Companies	6	3%	Qualitative
	Not Specified	2	1%	
Literature review	Articles	2	1%	Qualitative
	Not Specified	3	2%	
Reports Analysis	Articles	1	1%	Quantitative
	Companies	3	2%	
Case study	Companies	3	2%	Qualitative
Comparative analysis	Companies	3	2%	Quantitative
Other specified methods	Articles	2	1%	Qualitative and Quantitative
	Companies	4	2%	
	Not Specified	7	4%	
No specified method	Articles	1	1%	Not specified
	Companies	3	2%	
	Not Specified	13	8%	
Total		**172**	**100%**	-

Table 14 shows that the most used database by the researches who studied the relationship between corporate governance and performance is the Bucharest Stock Exchange with a number of 28 articles (16% of the total 172 papers). The companies' websites are the second one with 15 papers out of 172, representing 9% of the total. The third one used by the authors is Amadeus database with a number of 5 papers, representing 3% out of total. A limited number of papers studied data extracted from worldwide databases such as: Thomson Reuters (5 papers), National bank of Romania or others. Worthy to be mentioned here is that 62 papers (representing more than 36% out of 172 papers) have no information provided relative to the database the authors used to collect the data.

Table 14. Top five most used databases

Database	No. of articles	Frequency
Bucharest Stock Exchange Database	28	16%
Companies site	15	9%
Amadeus Database	5	3%
Thomson Reuters database	5	3%
National Bank of Romania	4	2%
Others Databases or not specified	120	69%
Total	**172**	**100%**

After filtering and sorting the indicators used by the authors to measure of corporate governance and corporate performance, the most common variables chosen by the authors of the studied articles are the Ownership Characteristics, Board characteristics and the ESG Index. For quantifying the corporate performance, the most common metrics used by the authors are Return on Assets, Return on Equity, and Tobin's Q ratio. These results are similar with the studies conducted by Core et al., (1999), Brick et al., (2006) and Campbell and Mínguez-Vera (2007). They studied the relationship between corporate governance and performance using as metrics of the corporate governance the board characteristics, board gender, board size and CEO duality and for the corporate performance they used Return on Asset, Tobin's Q and firm size (measured as total assets).

Table 15. Top six corporate governance and performance related metrics

Corporate Governance	**No. of articles**	**Emerging European countries**	**Corporate Performance**	**No of articles**	**Emerging European countries**
Ownership characteristics	28	CR, CZ, HU, RO, SRB and SLV	Return on Assets	24	CR, CZ, HU, RO, SRB, SLV and UKR
Board characteristics	15	BG, CR, CZ, HU, RO, SLV and UKR	Return on Equity	16	CR, CZ, HU, SRB SLV and UKR
ESG Index	6	CZ	Tobin's Q ratio	9	BG, CR, CZ, HU, SLV and UKR
CEO characteristics	5	CZ, HU and SLV	Firm size	8	CR, CZ, HU, RO, SRB and SLV
Supervisory Board	4	CZ and SLV	Return on Sales	8	CZ, HU and UKR
CG Index	4	CR and CZ	Economic Value Added	6	CZ and SVK

The frequency of the two underlying keywords chosen for this study (governance and performance) is presented in Table 16. The keyword governance counts a total of 6.969 occurrences within the 172 articles studied, with an average of 40,52 occurrences/article, a minimum of 0 occurrence and a maximum of 221 occurrences in a single article. The keyword performance counts a total of 7.100 occurrences within the 172 articles studied, with an average of 41,28 per article, a minimum of 0 and a maximum of 213 occurrences in a single article.

Table 16. Descriptive of the governance and performance keywords

Country	**No of articles**	**Governance frequency**				**Performance frequency**			
		Counted	**Min**	**Max**	**Average**	**Counted**	**Min**	**Max**	**Average**
Bulgaria	1	27	27	27	27,00	14	14	14	0,52
Croatia	13	601	1	221	46,23	732	1	148	15,83
Czech Republic	36	940	0	131	26,11	1869	0	162	71,58
Hungary	5	162	5	97	32,40	290	11	141	8,95
Romania	101	4556	0	211	45,11	3545	0	213	78,59
Serbia	4	119	1	56	29,75	112	14	59	3,76
Slovakia	3	99	7	71	33,00	148	13	115	4,48
Slovenia	6	248	9	96	41,33	268	9	119	6,48
Ukraine	3	217	30	104	72,33	122	7	106	1,69
Total	**172**	**6969**	**-**	**-**	**40,52**	**7100**	**-**	**-**	**41,28**

Counting the number of pages, the total number of the analysed articles, including the appendix, amounts to 2.404 pages, with an average number of pages of paper is 13,98 per paper (Table

17). The descriptive statistics indicate the shortest paper, having 3 pages and published in the Metalurgia International journal. It should be noticed that starting with the year 2013, this journal was removed from indexing in the Web of Science database. The most extensive one, with 61 pages is a paper published in July 2017, in the Economics of Transition Journal. Both of the minimum and maximum count are from Romania.

Table 17. Number of pages and number of references

Country	**No of articles**	**Pages frequency**				**References frequency**			
		Counted	**Min**	**Max**	**Average**	**Counted**	**Min**	**Max**	**Average**
Bulgaria	1	28	28	28	28,00	65	65	65	65,00
Croatia	13	203	9	28	15,62	490	7	80	37,69
Czech Republic	36	464	6	37	12,89	1371	7	73	38,08
Hungary	5	100	11	34	20,00	263	37	73	52,60
Romania	101	1351	3	61	13,38	3527	6	118	34,92
Serbia	4	50	8	17	12,50	103	16	44	25,75
Slovakia	3	38	10	16	12,67	163	24	85	54,33
Slovenia	6	117	15	25	19,50	378	37	112	63,00
Ukraine	3	53	13	20	17,67	137	40	43	45,67
Total	**172**	**2404**	**-**	**-**	**13,98**	**6497**	**-**	**-**	**37,77**

Analysing the number of papers' references, a total of 6.497 references are counted for the 172 articles, with an average of 37,77 references/paper. The minimum number of references used in a paper is 6. There are 4 papers in this category, out of which 3 are single authored papers, affiliated to Romanian universities, and one has multiple authors, with mixed affiliation. All four are published in conferences' proceedings. The paper with the highest number of references is an article published in 2018, in Journal of World Business, which count 118 references.

5. CONCLUSION

This paper provides an overview of the state of research in the field of corporate governance and performance conducted by researchers from nine European emerging countries. Using a structured literature review method, this research analyses papers published between 2002 and 2018, both in international journals and in proceedings of international conferences, indexed within Web of Science database. The initial search returned 268 results. Following the scrutiny of the database obtained based on a list of keywords, elimination of duplicates, and the availability for the full text download, a number of 172 unique articles were included in the analysis.

The results illustrate a growing trend until 2012, starting with 2013 it should be noticed that is an oscillating trend, both in the interest of the researchers, and for the validation of their research through the citations score. In terms of papers' characteristics, the average number of authors is 2.45 per paper, and the average number of pages of one paper is 15.23 pages. Another aspect considered is that out of 421 authors, 380 authors are affiliated European countries universities included in this study, publishing 164 articles. Moreover, 8 articles were published in collaboration with 41 international researchers.

A series of characteristics of the scientific papers were considered for a more advanced analysis.

This analysis includes topics regarding to research theories, research methodologies, research methods, the population's characteristics, the frequency of the governance and performance keywords, the most used databases and main metrics used for quantifying corporate governance and corporate performance. The results show that most papers are quantitative research, using regression analysis and descriptive statistics to analyse and debate on the relationship between corporate governance and performance. Another layer of analysis in this study focuses on the quality of the articles measured through several quantitative characteristics: the number of pages, the number of references and the number of citations. The frequency analysis and the descriptive statistics show that articles with a length of 3 to 61 pages, both of them are from Romania researchers, an average of 37,77 references, and an average of 4,91 citations per paper were published by the authors in the area of corporate governance and performance research. Romanian and Czech researchers published more than 79% out of 172 papers. The countries with less papers included in this study are form Bulgaria (1 paper), Slovakia and Ukraine with 3 papers each one.

This study may have direct implications especially in the academic environment of the European emerging countries. It contributes to providing an approach to discover under-investigating topics and methods, thus being a starting point for researchers who will further study this subject.

Future research directions may attempt broaden the sample of the papers analysed in the sense of extending it to other Eastern European countries with the purpose of finding possible patterns of research in this geographical area. Moreover, future research could also investigate the tools needed by different companies in order to improve their current corporate governance mechanisms so that they have a positive impact on the performance. A difference-in difference analysis on a sample including both emerging and developed countries characteristics may also be addressed in a future research.

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Other / Accounting / Quantitative

TO THE POSITION OF THE ACCOUNTING PROFESSION IN THE CZECH REPUBLIC

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Abstract
Idea: In this paper we enquired representatives of profession about how does the accounting practice react to changes brought by new technology and how does the accounting education adopt to needs of practice. We investigate their opinion on accounting profession and importance of the role of accountant and change of accounting profession. Qualification requirements are reinforced by the changes that are currently taking place. These changes come mainly with Industry 4.0, which reopens the issue of training and qualification of accountants.
Data and tools: This study has a qualitative nature. In this research, we have used semi-structured interviews with the main representatives of accounting profession – accountants, tax advisors, auditing firms, representatives of accounting union, providers of software for accounting practice and representatives from the ministry of finance Czech Republic.
What's new: The structure of accounting activities is changing: the share of simple, not yet automated operations will be reduced in favour of operating data processing software and more qualified operations. Closer connection of the performance of the accounting profession with to the performance of other managerial functions takes place.
So what: Accounting profession in the Czech Republic is not formally regulated, but there are expert accounting exams on various levels for accounting professionals, auditors and tax advisors. Furthermore, bigger industrial firms or specialized accounting and auditing firms require that their accountants actually have some accounting qualification either from the Czech Republic (accounting expert) or some international exams like ACCA, ACA, CIMA or similar.
Contribution: This paper contributes to the literature stream on accounting profession. It is expected that the accountant may play more important role and have more responsibility attached. Further question is the issue of accounting ethics, which is becoming more and more important especially on the background of recent big accounting scandals. Schooling and further professional training should help accounting experts to perform the role.

Keywords: *accounting profession, audit, Industry 4.0, tax advisors, role of accountant in society*

1. INTRODUCTION

Demands on accounting profession are changing with changing corporate environment and improving technology. Accounting profession needs to take in consideration increased complexity of economic relations. Appropriate education may help new generation of accounting professionals in this regard to overcome the rising obstacles (Walton, 2000; Sucher, Kosmala, Bychkova and Jindrichovska, 2005; Steccolini, 2019; Christensen, Newberry and Potter, 2019; Ghani and Muhammad, 2019. Accounting is not just plain bookkeeping which is taught and practiced at specialized secondary schools and economic colleges in the Czech Republic. Nevertheless, the curriculum is gradually changing with increased demands reflecting new technologies and changes in the world economy.

Accounting practice adapts faster to new trends and challenges and incorporated new routines and a new accounting procedures employing using automation and digitalization. As a result accounting practice does not need to employ so much manpower, but the specialized role of accountants is increasing (Molina-Sánchez, Ariza-Montes, Ortiz-Gómez and Leal-Rodríguez, 2019; Moll and Yigitbasioglu, 2019; Ghani and Muhammad, 2019).

These processes are currently beginning to deepen further with the intentions of Industry 4.0. (Kruskopf, Lobbas, Meinander, Söderling, Martikainen and Lehner, 2019; Tiwari and Khan, 2020). Industry 4.0 brings the next phases of automation of processes associated with the processing of data in accounting and other data in the information system of companies. Automation is applied not only in the phase of processing input data (using accounting software), but also in the phase of recording, control and transmission of primary data, which precedes their processing.

Hence in the activities of accountants, there is a further reduction of mechanical and repetitive tasks (preparation, transmission and recording / recording and storage of documents) and freeing up time and capacity for the areas of processing and interpretation of output data, as well as their presentation and interpretation. This increases and expands the demands on the knowledge and skills of accountants, especially towards financial management, processing and presentation and interpretation of data, and in its consequences it links accounting positions with managerial function.

In the Czech certification of accountants program the following capabilities and knowledge are stressed for the independent accountant:

> *"Independent accountant, which is the most common universal qualification is responsible for the following activities: Calculations of depreciation and some taxes, checking the formal and factual correctness of accounting documents, filling out forms and reports for state authorities, preparation of financial statements, accounting of individual accounting operations of financial accounting, internal accounting, accounting for inventory of fixed assets, inventories, funds, receivables and payables, implementation of accounting controls, cooperation in the creation of internal regulations governing their system".*[1]

Recommended skills of independent accountant are Computer Competence, Numerical Competence, Economic Awareness, Legal Awareness, Language Competence in Czech and English, Soft Competences are Independence, Problem Solving, Planning and Organizing Work, Lifelong Learning.

Accountants play an important and active role in the management of companies. They process not only accounting agendas for the preparation of financial statements, but also provide on-going and partial information on individual areas of company management. Therefore, they participate in the management of not only in the company as a whole but also in partial processes (supply, storage, sales, etc.).

The activities associated with bookkeeping are influenced by modern technologies for years. This is not just software for keeping accounting records, but other activities which enter into the comprehensively understood position of the accounting profession. This survey aims

[1] https://vzdelavaniaprace.cz/profese/samostatny-ucetni/2064

to find out what changes in the accounting profession are perceived by selected representatives of practice and the accounting profession.

This paper is structured as follows: Part one is the introduction. Part two summarizes the previous literature. Part three explains the used methodology, whilst part four delivers our findings. Part five provides conclusions and limitation of the study and suggests areas of future development.

2. PREVIOUS LITERATURE

Problems of accounting profession in the Czech Republic were discussed by many authors, e.g. Seal, Sucher and Zelenka (1996) concentrate on problems associated with transition from state regulated system to new market system and analyses the role of accountants and auditors. These professionals attempted to apprehend new areas of economic activity which emerged with the transition of Czech society after 1989. The transition is characterised by a changing balance between the guiding principles of state, market and community.

Paper by Sucher and Jindrichovska (2004) presents a study of the implementation process for International Financial Reporting Standards (IFRS) in the Czech Republic. The results are based on the review of institutional framework, related legislation and information based on interviews with relevant stakeholders Czech companies required to prepare IFRS and professionals – accountants, auditors and institutional representatives. Furthermore, interviews were held with major Czech enterprises listed on the Stock exchange. The paper explores the issues that arise with implementation of new accounting regulations and assesses the state of preparedness of local group listed entities with respect to the implementation of IFRS reporting.

Study by Strouhal (2012) offers insights brought by Czech accounting professionals to questions with regard to implementation of IFRS for SMEs. The author concentrates on the perception of the representatives of Czech accounting profession about the possible implementation of the IFRS, or IFRS for SMEs respectively as a reporting framework for the Czech companies. The study is based on-semi structured interviews and wants to provide deep, rich understanding of approached field of research together with theoretical generalisation. According to this research the professional accountants see the major benefit of the IFRS for SMEs adoption in the elimination of duplicate accounting within international groups and the higher comparability of accounting data. Furthermore, they believe in elimination of the tight link of national accounting system to tax system. The major users of financial statements based on IFRS for SMEs will be capital providers and potential investors:

> *“The national characteristics, i.e. each country’s accounting culture and traditions, have developed over (a long) time in close relationship with the political, social and economic environment of each of them, influencing the way in which IFRSs are applied.” and furthermore …“local traditions exercise a strong influence on the implementation of new concepts, and that tax and legally-based orientation hinder the harmonization process”.* (Strouhal 2012, p. 215)

In the paper by Jindrichovska and Kubickova (2015) the authors used the auto-ethnography method using authors’ experience to investigate the development of Czech accounting research and education and their links to current accounting practice. The main premise was that accounting education in the Czech Republic after the change from central planning system is deeply rooted in its past and is thus closely linked to practice. As a result, the most current published Czech accounting research reflects the needs of accounting practice rather than academic research interests which stems from the current relations amongst academia, practice and training institutions. There is competitive environment in accounting education, which does not lead to quality improvement but generation of greater quantity of "quick" graduates.

> *"A competitive environment and competition for students tend to offer a body of knowledge that will ensure immediate employment of students in the labour market. Knowledge of IFRS is not yet a required common practice, and this is causing a pragmatic focus closely on content preparation and lack of interest in IFRS. Interpretation of accounting issues are also focused on the current treatment of Czech accounting standards and their practical applications in close relation to the tax consequences and use of all legal options to reduce tax liability."* (Jindrichovska and Kubičkova, 2019, p. 339)

Recent papers dealing with the perception of the accounting profession are e.g. Blechová, Koštuříková and Seligova (2019) and Kubíčková and Nulíček (2019). Authors Blechová, Koštuříková and Šeligová used a questionnaire survey method to evaluate the perception of the accounting profession in the Czech Republic by students of the full-time and combined study. It has been shown that the perception of entrepreneurial risk associated with choosing a profession of an accountant does not depend on the form and field of university studies. The results also show that the perception of the impact of the economic downturn over the past years on increasing the importance of professional accountants. Finally, the results also showed that the perceptions of accountants in the Czech Republic depend on final position achieved. Perception of the role of accounting and accounting profession was also investigated by Kubíčková and Nulíček (2019). The authors react to the conclusions of some researchers that the transnational rules acquire specific national features and cultural specifics in different countries. The authors claim that cultural specifics are usually reflected in the formulation of legislative rules and regulations. Therefore, they concentrated on disclosing differences in the perception of financial reporting and the role of accountants in three different environments: in the Czech Republic, in Great Britain and Ireland and China. The results show that there are differences both in the opinions on the role of accountants in business management and on the role of financial reporting as well as in the attitudes to the solution of selected accounting situations. Greater differences were found among the views of continental and Anglo-Saxon students than between continental and Asian students.

3. METHODOLOGY

In this research we have used semi-structured interviews with representatives of broad accounting profession. Interviews were held in June and July 2020 in Prague.

Our interviewees are ranging from experts in accounting and taxes, tax advisors, financial and investment directors and consultants, regulators from state administration (ministry of finance), Representatives of international and Czech accounting associations and professional organizations of tax advisors and auditors, internal auditors and others. Complete list of interviewees and their characteristics is summarized in table 1.

Table 1. Interviewees

Interviewee	Professional characteristics	Institution (description)
I1	Manager of professional education	International accounting association
I2	Representative of professional organization	Czech accounting association
I3	Representative of state administration – regulator of accounting	Regulator – state administration
I4	Accounting software producer	Accounting software firm
I5	Auditor	Big Czech audit firm
I6	Accounting consultant	International audit firm – big four
I7	Auditor and tax advisor	Medium Czech audit firm
I8	Tax advisor	Professional organisation
I9	Auditor and tax advisor	International audit firm – non-big four
I10	Educational specialist – business	Business educational firm

Source: own investigation

Since we wanted to delve into the needs of profession and practice on the background of current changes, we have enquired representatives of profession about how does the accounting practice react to changes brought by new technology and how does the accounting education adopt to needs of practice. In our survey, we did not specify the position of the accountant, but the answers of the respondents were mostly focused on the performance of the accounting profession in general, respectively, within the accounting department of companies.
Semi-structured interviews were organised alongside the following questions:

Table 2. Open questions

1	What new requirements on accounting professionals do you perceive?
2	In your opinion, what are the expert requirements on accounting profession from the stand point of regulators, tax advisors and auditors?
3	How do you perceive the impact of information technologies and industry 4.0 – automation and digitalization on accounting profession?
4	Could you, please, explain what new elements became a part of accounting profession?
5	Could you, please, explain your view on the place and importance of accounting profession for business management?

Source: own investigation

Responses were recorded and transcribed to enable interpretation.

4. RESULTS

The most representative responses to each question are summarized in table 3.

Table 3. Open questions with the most representative responses

1 **What new requirements on accounting professionals do you perceive?**

I1: *"In addition to basic professional knowledge, knowledge related to current and future technologies and trends in the field of finance, (such as big data, data analysis, blockchain, machine learning, artificial intelligence, etc.), is also important for the performance of the accounting profession."* [Professional educator – accounting]

I9: *"In the performance of his profession, an accountant works 60% of his time with modules such as MS Office, especially Excel, Power Point, and eventually other of similar purpose. I think it would be good to include this knowledge in the study programs that prepare them…"* [International audit firm non-big four]

I10: *"…In the activities of an accountant, language skills and the ability to talk about current economic topics and their impact on contemporary society also prove to be an important condition for the performance of activities. …"* [Educational specialist – business]

2 **In your opinion, what are the expert requirements on accounting profession from the stand point of regulators, tax advisors and auditors?**

I2: *"From current practice, we perceive a shortage of skilled labour in the accounting profession, which will continue to deepen in connection with the aging of the profession."* [Czech accounting association]

I9: *"…tax issues are, in my opinion, necessary for the accounting profession. I think the young professionals they will meet it on a daily basis…"* [International audit firm non-big four]

I8: *"Bookkeeping is so complicated for a large part of self-employed and small companies that its processing is outsourced to external accountants or specialized companies. Many of them live in peace, believing that their accounting is well taken care of. But only until they are checked by an inspection from the tax office."* [Tax advisor]

3 **How do you perceive the impact of information technologies and industry 4.0 – automation and digitalization on accounting profession?**

I3: *"… in the performance of the accounting profession are not only important" so-called. ′hard skills′. If the numbers and other contexts that affect financial management, the accountant is not able to present clearly and intelligibly, then it is wrong. The so-called "soft skills" are also important, i.e., for example, the ability to present results and interpret them.* [Regulator – state administration]

I5: *"In recent years, we have faced the problem of insufficiently prepared readiness of applicants and we have had to spend additional resources on their training. For positions as* *financial and accounting specialists in many fields and forms of business, they should have expertise in the field of financial management, financial statements and procedures, as well as other reporting and auditing, tax issues and basic economic concepts and contexts."* [Auditor]

I8: *"…Today's driving force is an information technology (information systems), automation, robotics (it is far from just about production) and the ability to work with data and their analysis. This is reflected more in the activities of accountants than in other management professions. …"* [Tax advisor]

4 **Could you, please, explain what new elements became a part of accounting profession?**

I1: *"It should be automated to use Excel and other software tools and other tools to support them effectively, supporting their presentation and explanation (tables, graphs) – I think a lot of students and graduates gain this knowledge, but they can't put it into context."* [Professional educator – accounting]

I3: *"… in connection with the performance of the accounting profession are combined and important expertise in the field of financial management, financial statements and their interpretation, international reporting and auditing, tax issues and basic economic concepts and contexts. Only graduates will be equipped with sufficient skills to work as financial and accounting specialists in many fields and forms of business."* [Regulator – state administration]

I10: *"Knowledge of the English language should include skills not only in terms of deepening grammatical knowledge, but also in terms of the ability to talk about current economic topics and their impact on contemporary society."* [Educational specialist – business]

5 **Could you please, explain your view on the place and importance of accounting profession for business management?**

I3: *"Financial modelling / planning should also be part of the preparation for the accounting profession… It is important from the point of view of "forward looking ": I can analyse the company historically, but if I cannot make a financial plan for the future, then it is not a completely complete view and the financial manager should be able to do this. Some methods for planning and modelling will certainly be learned in statistics, but it will be important to be able to use them in accounting and financial management and for interpretation of accounting data."* [Regulator – state administration]

I4: *"A general view on most of what is happening in the company is important for the accounting profession. Knowledge changes incredibly fast and personal motivation and willingness to continue learning becomes crucially important."* [Accounting software producer]

I10: *"Based on my experience, I see knowledge about cash flow management as very important. I am reacting on the basis of current knowledge of very poor financial management of large and small companies and self-employed people, which had a liquidating impact on many entrepreneurs during the recent pandemic."* [Educational specialist – business]

Source: own investigation

5. DISCUSSION AND CONCLUSION

Based on the conducted interviews we can summarize the views on changes in the position and performance of the accounting profession on several levels. Most interviewees agreed on the following new features of the accounting profession:

- Accounting profession and its performance is under significant influence of information technologies initiated by Industry 4.0, big data, artificial intelligence, etc. As a result, the structure of accounting activities is changing. The share of simple, not yet automated operations will be further reduced because it will be performed by data processing software. The accountants will then perform more qualified functions. See also Ghani and Muhammad, 2019; Moll and Yigitbasioglu, 2019.
- Part of the performance of the accounting profession will be in cooperation with other managerial departments. In the performance of the accounting profession, the share of activities related to the preparation and presentation of data is increasing (Walton, 2000).
- Performance of these activities requires the ability to apply available data processing tools (Excel, Powerpoint or other). It also requires the ability to interpret the presented data with the knowledge of the company processes (Kruskopf, Lobbas, Meinander, Söderling, Martikainen and Lehner, 2019).
- In the performance of accounting activities, the importance of so-called ´soft skills´ is growing not only in sense of data presentation but also in the field of interpersonal and interdisciplinary communication and cooperation within the company (especially multinational companies).
- Furthermore, language skills are becoming an essential part of the accounting profession in connection with the performance of accounting profession in companies with different ownership structures and also due to the gradual internationalization of the accounting.

Many specifics that are reflected in the performance of accounting profession are related to specific conditions of performance of particular tasks (accountant in SME, an accountant in a large company, independent accountant, accountant in an accounting firm, an accountant in tax consulting advisory, etc.). In our research, we did not address these specific categories in more detail. They can become an exclusive research area for other research projects.

The specific research problem is the requirements related to the gradual expansion of accounting harmonization and application of IFRS. This area is quite special due to the different cultural, social and economic roots on which IFRS are based in comparison with the conditions from which financial reporting grew in the Czech Republic. These aspects have not been explored in this study and they may become a topic for follow-up research.

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SEASONAL EFFECTS AND PATTERNS ON STOCK MARKETS: MONTHLY AND HOLIDAY EFFECT

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Abstract
This paper aims to test whether seasonal anomalies in the form of the Monthly and Holiday effects occur in the movement of stock prices on selected national stock markets. Data on the development of stock indices on 9 national markets for the period 2001–2020 were used to examine the occurrence of both anomalies. Due to the occurring outliers and skewness, the nonparametric Wilcoxon signed-rank test was used to verify both Monthly and Holiday effect. Based on the performed calculations, it can be stated that the effect of the Monthly effect was demonstrated only on the markets in the USA and Japan, while in the case of Japan it was the so-called "inverted" Monthly effect. On the contrary, the occurrence of the Holiday effect examined in June was identified in the Dutch, French, German and British markets.

Keywords: *efficient market hypothesis, seasonal anomalies, stock market, monthly effect, holiday effect*

1. INTRODUCTION – SEASONAL ANOMALIES IN STOCK MARKETS

Following the efficient market hypothesis defined by E. Fama (1970), there should be no regularly recurring dependencies or patterns in the movement of stock prices. Stock prices should respond almost immediately to new, unexpected information that is released independently, randomly, and therefore the movement of stock prices should show a so-called Random Walk. Any patterns in the behaviour of stock prices, which would be regularly, seasonally repeated in the market, are therefore contrary to the efficient market hypothesis. In case of occurrence of a seasonal pattern (i.e. some kind of repetitive movement or fluctuation over a known period) in a market that works effectively, marketers should identify the pattern and rationalize their behaviour to use it to make a profit. With their rapid reactions, market participants should eliminate the profitable opportunities offered by the occurrence of the seasonal pattern. In an efficient market, therefore, no seasonal effects or patterns can be found that could become the basis for a successful investment strategy that brings investors excessive profits repeatedly.

However, the recurrence of certain seasonal anomalies and effects in stock markets has been proven in the past by studies by Rozeff, Kinney (1976), Gutelkin, Gutelkin (1983) or Haug, Hirschey (2006), which focused on the existence of the January effect, French (1980), which points to the occurrence of the Weekly effect, Ariel (1987) or Jaffe and Westerfield (1989), which point to the effects of the Monthly effect, Agrawal, Tandon (1994), that confirmed the occurrence of Monthly, Holiday, Weekly and January effects in some countries, Bouman, Jasobsen (2002) or Haggard, Witte (2010), which focused on examining the success of a strategy based on a seasonal anomaly called the Halloween effect.

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Among the most well-known among seasonal effects are calendar anomalies, which are characterized by an uneven, regularly recurring distribution of the rate of return within a month. One of the calendar anomalies is the Monthly effect. In the literature, the Monthly effect is mentioned in three versions, namely The Half Month effect, The Turn of The Month effect and The Third Month effect. However, all three versions of the Monthly effect have a similar effect, namely that the first half or beginning of the month is associated with a higher rate of return compared to the second half or end of the month, although certain deviations from this monthly pattern in individual months are generally allowed. The occurrence of the Monthly effect is usually explained by the fact that companies tend to report good news in the first half of the month, while bad news is published until the end of the month. Another explanation came from Ogden (1990), who attributes the increase in profit, especially in the first days of the month, to the increase in demand caused by the standardization of payments with a pay-out date, usually at the end of the month. The recurrence of stock prices rising at the beginning of the month, which allows investors to achieve positive profit, while stock prices fall at the end of the month, bringing investors losses, could be used as the basis for a profitable investment strategy that would recommend investors to sell around 10. day of the month at high rates and buy at the very end of the month at low rates, which is in controversy with the essence of the efficient market hypothesis, as this hypothesis assumes that above-average gains cannot be achieved repeatedly in an efficient market using any investment strategy. Therefore, the demonstration of the persistent existence of the Monthly effect on the market can be understood as proof of the inefficient functioning of this market.

Holiday effect or also Pre-Holiday effect is a calendar anomaly, which manifests itself on the last day or a few days before the holidays, vacations or any holiday. The essence of the Holiday effect is on the stock markets research such as Lakonishok, Smidt (1988), Ariel (1990), Agrawal, Tandon (1994) or Kudryavtsev (2019) the repeatedly observed fact that the rate of return is several times higher during the days before the holidays than the average rate of return on normal trading days during the year. During the holidays or vacations, themselves, the liquidity on the market and also the rate of return decrease significantly. However, after the holidays or vacations, the rate of return usually rises again.

As an explanation for the occurrence of the Holiday effect, the consideration is used, that short-selling traders close their risk positions before their holidays or vacations, i.e. they buy shares, which leads to an increase in demand and an increase in stock prices. However, on the other hand, it is illogical why only short-selling traders would like to close their positions before the holiday, why this activity does not also apply to traders who have open long positions. Why don't these long position traders also want to close positions and sell? And why are not all closed short positions before the holiday renewed after the holiday? If short positions were to resume on a larger scale, it would not support the rise in stock prices that usually occurs after holidays. Another cause of the Holiday effect is behavioural. Investors before the upcoming holiday, full of optimism and good mood, which they want to keep before the holiday, and therefore think less critically, analyse incoming information in less detail so as not to disturb a pleasant and optimistic state of mind, and therefore are less willing to do complex and unpleasant business decisions. Negative events are thus underestimated or their analysis is postponed to the future. The consequence of this mental state of investors is the fact that they prefer shopping for sales before holidays or vacations.

2. PREVIOUS RESEARCH

The occurrence of seasonal effects and patterns in stock markets has been repeatedly examined and demonstrated in many studies in the past. Some of these studies have focused their attention on Monthly and Holiday effects.

One of the first and well-known studies that convincingly revealed a persistent Monthly anomaly was the Ariel study (1987) conducted on data from the American stock markets for the period 1963–1981. The author compared the returns in the first half of the month with the returns in the second half of the month. The results of the study clearly showed the difference between the returns in the first and second half of the month, over the entire study period. The rate of return in the first half of the month was significantly positive, while the rate of return in the second half of the month was close to zero. According to Ariel (1987), the Monthly effect is independent of other calendar anomalies such as the January effect.

Jaffe and Westerfield (1989) examined the occurrence of the Monthly effect in Japan, Canada, the United Kingdom, and Australia. Without objections, the study identified this effect only in Australia. The effect of the Monthly effect has not been confirmed in Canada and the United Kingdom. In Japan, the so-called “inverted” monthly effect was discovered, which was characterized by the fact that the first half of the month was associated with a significantly lower rate of return and the second half of the month with a significantly higher rate of return.

Bourdreaux (1995) confirmed the occurrence of the Monthly Effect on the stock markets in Denmark, Germany and Norway in the period 1978–1992. In France, Spain and Switzerland, the existence of the Monthly effect was not confirmed by that study during that period. The “inverted” monthly effect was discovered on the stock markets in Singapore and Malaysia.

Kunkel et al. (2003) analysed data from 19 countries for the period 1988–2000. This study looked at The Turn of The Month effect, which is found in 16 of the 19 markets surveyed. According to the authors of the study, 87 % of average monthly returns accumulate only in the four days around the turn of the month containing the last day of a certain month and the first 3 days of the following month. Lakonishok and Smidt (1988) have previously discovered a similar pattern in stock price behaviour using the American Dow Jones Industrial Average, for 90 years from the beginning of its calculation in the year 1896.

Abraham (2016) also focused his attention on the occurrence of The Turn of the Month effect anomaly in the Singapore stock market in the period 1995–2015 and also on the possibility of using this effect to construct a successful trading strategy. The results of the study confirmed the existence of this anomaly in the Singapore market and fully agree with the results of the Boudreaux study (1995), as this anomaly also manifested itself in that market in an “inverted” manner. Based on the achieved results, Abraham (2016) designed a profitable investment strategy using The Turn of the Month effect.

Andries, Ihnatov and Sprincean (2017) chose as their subject of research the occurrence and effect of the Weekly and Monthly effect, but also the volatility of the stock markets of Central and Eastern Europe in the period 2000–2015. In addition to the increased volatility, the mentioned authors also point out the occurrence of both examined seasonal patterns, which, even after taking into account transaction costs, can bring investors unusual profit opportunities.

The often cited study that confirmed the effect of the Holiday effect is the study of Lakonishok, Smidt (1988). The authors used data from the US market for the 90-year period. They found that the rate of return before the holidays or vacations is about 22 times higher than the rate of return on a normal business day. At the same time, approximately 63.9 % of all returns were positive in the days preceding the holidays or vacations.

Pettengill (1989) found that the rate of return produced by the US stock market in the days immediately preceding the holidays is extraordinarily high, regardless of the day of the week, year, or type of holiday. This anomaly in the rate of return is evident in both large and small companies, however, in small companies this positive deviation in the rate of return is significantly higher. The rate of return produced by stocks after the holidays or vacations was high only if the days off occurred at the end of the week.

The recurrence of abnormal gains in the last trading day before selected holidays was confirmed by the Ariel study (1990), which was carried out using data on the development of the DJIA index in the period 1963–1982. On the last trading day before the holidays, the DJIA index showed very high returns, which were on average 9 to 14 times the average return for the remaining days of the year. When measuring the return of the market portfolio represented by the DJIA index in the period under review, Ariel found that more than a third of the total return on this market portfolio was realized in only 8 trading days, each preceding a holiday when the market is temporarily closed.

Agrawal and Tandon (1994) examined the occurrence of the Holiday effect (and other seasonal anomalies) in 18 national markets (Brazil, Luxembourg, Mexico, New Zealand, Switzerland, the United Kingdom, Australia, Belgium, Canada, Denmark, France, Germany, Hong Kong, Italy, Japan, the Netherlands, Singapore, Sweden) and the USA. The study identified a "pre-holiday" significantly positive return on 11 of the 18 national examined national markets. These returns were much higher than the average daily returns in these markets. In 8 of the monitored countries, even the two-day "pre-holiday" return represented over 70 % of their average monthly return.

A study by Dodd, Gakhovich (2011), focused on the existence of the Holiday effect in 14 emerging markets in Central and Eastern Europe. The authors concluded that the Holiday effect is present in the CEE countries, with many of the countries surveyed showing abnormal profits before the holidays, but also unusual returns after the holidays. The effect of the Holiday effect was more pronounced in markets that had a longer history of operation. However, over time, the strength of the Holiday effect in these markets has rather declined, which the authors attribute to the increase in the efficiency of these markets. Liquidity declined in all examined markets before the days off.

The Kudryavtsev study (2019) found positive as well as negative movements in stock prices represented by the S&P 500 index in the period 1993–2017, which took place immediately before the holidays. However, according to the study, further significant changes in stock prices follow after a certain number of days, with the Holiday effect being more pronounced for small and more volatile stocks and remaining robust even after taking into account other company-specific factors. The author explains his findings by the reluctance of investors to make important business decisions before days off, i.e. before holidays or vacations, which leads to an underestimation and delay of the impact of negative factors on companies' shares.

3. METHODOLOGY AND DATA

To examine the occurrence of the Monthly and Holiday effects, data of the development of 10 stock indices representing 9 selected national stock markets for the period 2001–2020 were used in this paper. Specifically, the following stock indices were used: AEX, CAC 40, DAX, PX, WIG 20, MOEX, NIKKEI 225, FTSE 100, DJIA and S&P 500. Data of the PX index are available for the period 2002-2020. The source of most data was the investing.com database (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX).

The daily historical rate of return R was calculated for all stock indices:

$R = \frac{y_t - y_{t-1}}{y_{t-1}}$, where

yt is the final value of the stock index
yt-1 is the initial value of the stock index.

To determine the Monthly and Holiday effect, the idea of confirming the equality of two averages in the dependent samples was used, i.e. the hypothesis:

H_0: $\mu_1 = \mu_2$, where

μ_1 is the average rate of return of the first period for the current stock index,
μ_2 is the average rate of return of the second period for the current stock index.

For the monthly effect, μ1 was calculated as the average rate of return of the first 9 trading days of the month and μ2 is the average rate of return of the last 9 trading days of the month. The holiday effect is tested in terms of comparing the average of the last 3 business days before the summer holidays with the average rate of return of all business days in June, for each year separately. Thus, 60 values were available for the paired test (57 values in the case of the PX index).

First of all, the assumptions of using the paired-samples t-test were verified. The data for the Monthly and Holiday effect does not meet the conditions for the use of the parametric the paired-samples t-test, especially in terms of outliers and strongly skewed distributions, which contradicts the assumption of normality, and therefore the nonparametric Wilcoxon signed-rank test was used. The paired-samples t-test has a slightly better explanatory power if the assumption of normality is met, however, the Wilcoxon signed-rank test is a commonly accepted alternative to this test in case of violations of assumptions.

Due to the high volatility of the data in the period under review, we consistently considered a 10% level of significance throughout the article, with most tests within the Monthly effect also complying with the classic 5% level of significance.

We also state the sample size for self-evaluation of statistical significance with the dependence of this parameter at the end of the tables.

4. CALCULATIONS AND RESULTS

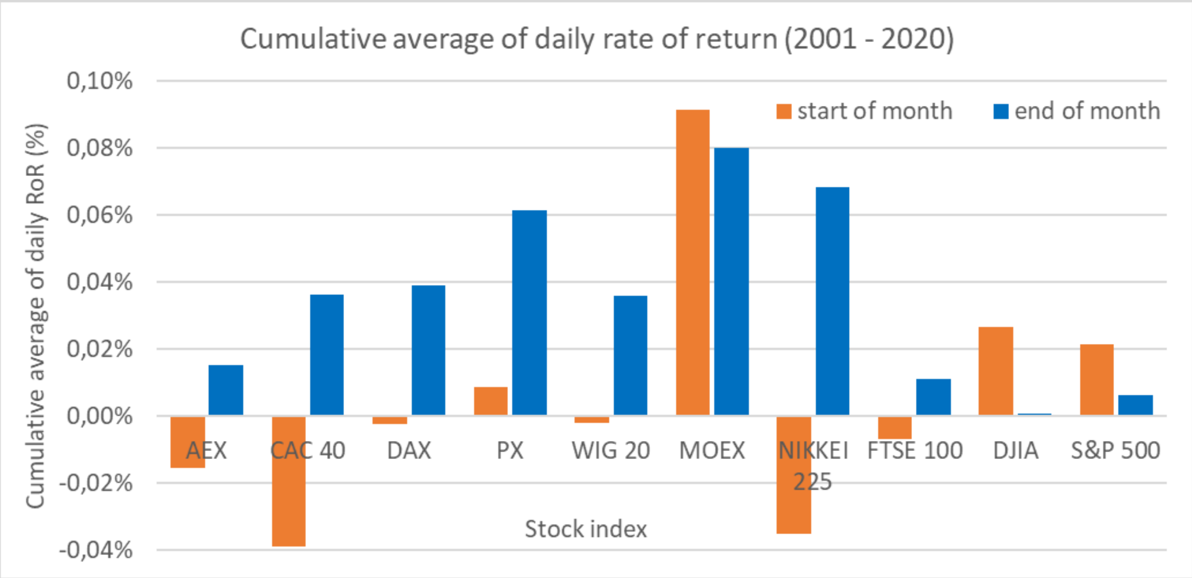
The graphs and tables below present the results of calculations aimed at proving the occurrence of the Monthly and Holiday effect in selected 9 markets.

4.1 Monthly effect

The occurrence of the Monthly effect in the selected markets was first examined in aggregate for the entire period 2001–2020 and then the year 2008 was excluded from this period, in which the development on the stock markets was significantly negatively affected by the financial crisis.

Figure 1 shows the cumulative average daily rate of return in the studied markets for the first 9 days of the month (orange bars) and the last 9 days of the month (blue bars). The differences in return rates at the beginning and end of the month are visible from the graph, as are the features of the Monthly effect for some indices.

Figure 1. Cumulative average of the daily rate of return – all markets



Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

Table 1 shows the results of the Wilcoxon signed-rank test for the whole period 2001–2020 and for the same period with the year 2008 omitted. The first column contains differences of averages of the first 9 nine days and last 9 days in the month.

For the whole period only American and Japanese market show statistically significant difference of the two averages. American market measured by DJIA has an expected behaviour that the rate of return in higher at the start of the month. In the Japanese market, the difference of averages is negative therefore the end of month rate of return is higher.

After omission of the year 2008, the expected behaviour occurred in Russian and American market measured by DJIA and S&P 500. Surprisingly, on the Japanese market, the previously confirmed performance has disappeared.

Table 1. Results of the Wilcoxon signed-rank test of Monthly effect, 2001–2020

Period	2001 - 2020			2001 - 2020 (without 2008)		
Index	Difference of Averages (%)	Z	Asymp. Sig. (2-tailed)	Difference of Averages (%)	Z	Asymp. Sig. (2-tailed)
AEX	-0,031	-0,248	0,804	-0,018	-0,507	0,612
CAC 40	-0,075	-0,808	0,419	-0,060	-0,402	0,687
DAX	-0,041	-0,031	0,976	-0,026	-0,371	0,710
PX	-0,052	-0,066	0,948	-0,012	-0,806	0,420
WIG 20	-0,037	-0,011	0,991	-0,013	-0,527	0,598
MOEX	0,009	-1,621	0,105	**0,062**	-1,673	**0,094**
NIKKEI 225	**-0,103**	-1,900	**0,057**	-0,087	-1,553	0,120
FTSE 100	-0,018	-0,587	0,557	0,003	-1,166	0,243
DJIA	**0,025**	-2,176	**0,030**	**0,045**	-2,717	**0,007**
S&P 500	0,014	-1,497	0,135	**0,034**	-2,083	**0,037**
minimum n			221			210

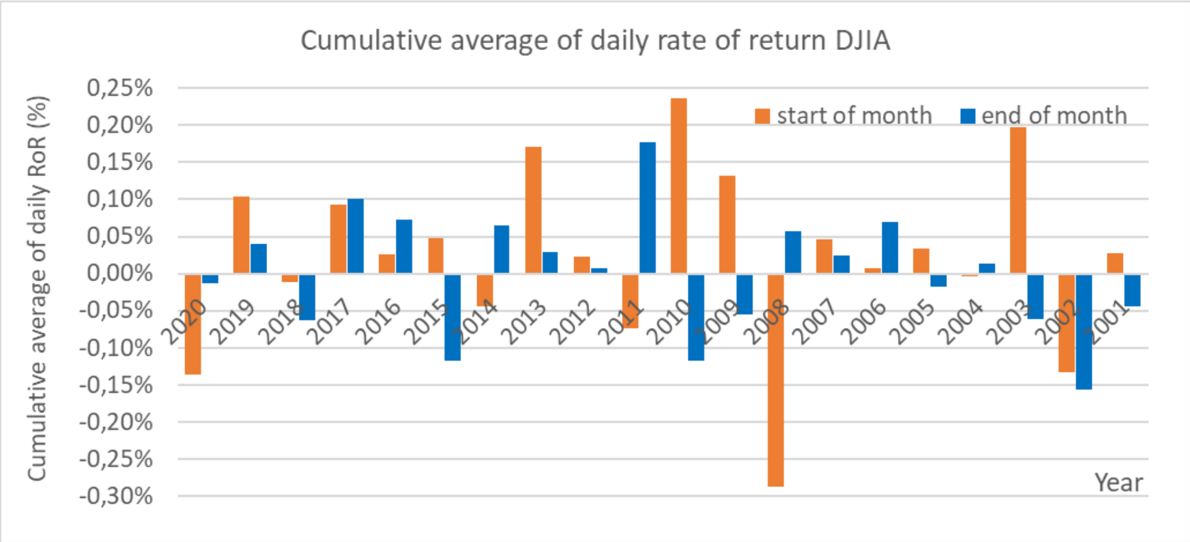
Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

Figures 2–5 show the development of cumulative average rates of return in individual years over the entire period under review in those markets where the occurrence of the Monthly Effect was statistically significant, i.e. in the US, Russian and Japanese markets.

The strength of the Monthly effect is in this article measured by comparing the difference between the average rates of return in the first period and the last period. The greater the difference, the stronger the effect considered.

The most significant Monthly effect in the case of the DJIA is manifested in the years 2003, 2009 and 2010. On the contrary, in the turbulent year of 2008, this index behaved quite the opposite. Therefore, after the omission of this year, the Monthly effect is more distinct.

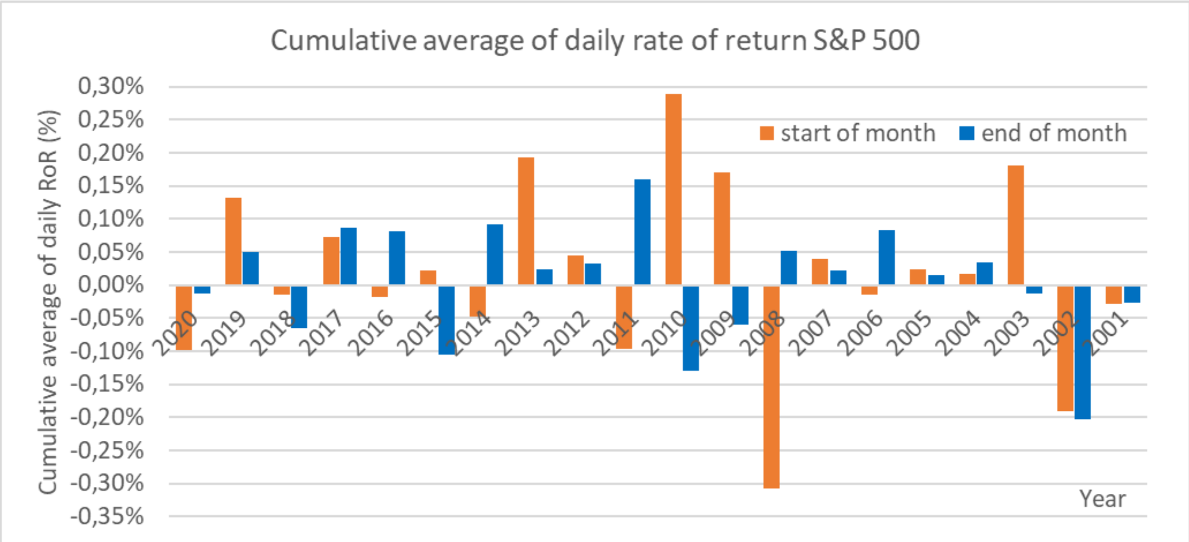
Figure 2. Cumulative average of the daily rate of return DJIA



Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

The behaviour of the S&P 500 index is logically similar to the previous index, the DJIA. The difference is that in the case of this index, its development in 2008 was more distinct. The omission of the year 2008 made it possible to confirm the Monthly effect at the 5% level of significance.

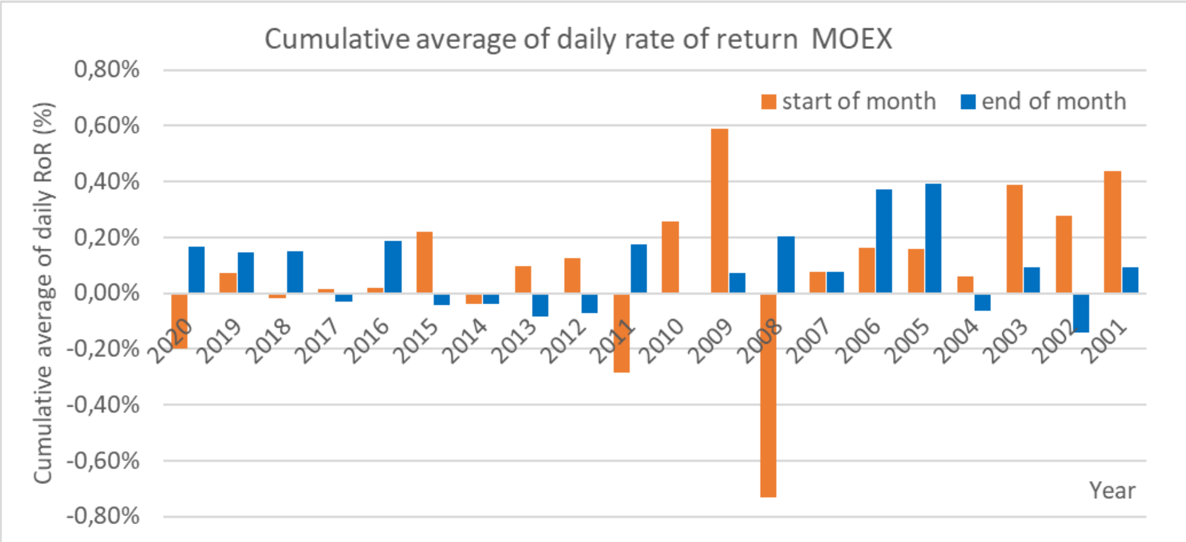
Figure 3. Cumulative average of the daily rate of return S&P 500



Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

The MOEX index shows significant differences between positive and negative cumulative average rates of return supporting the idea of the Monthly effect at the beginning and end of the month in years 2001, 2002 and 2009. After the omission of 2008, this Monthly effect is confirmed for the whole period despite a gradual weakening in recent years.

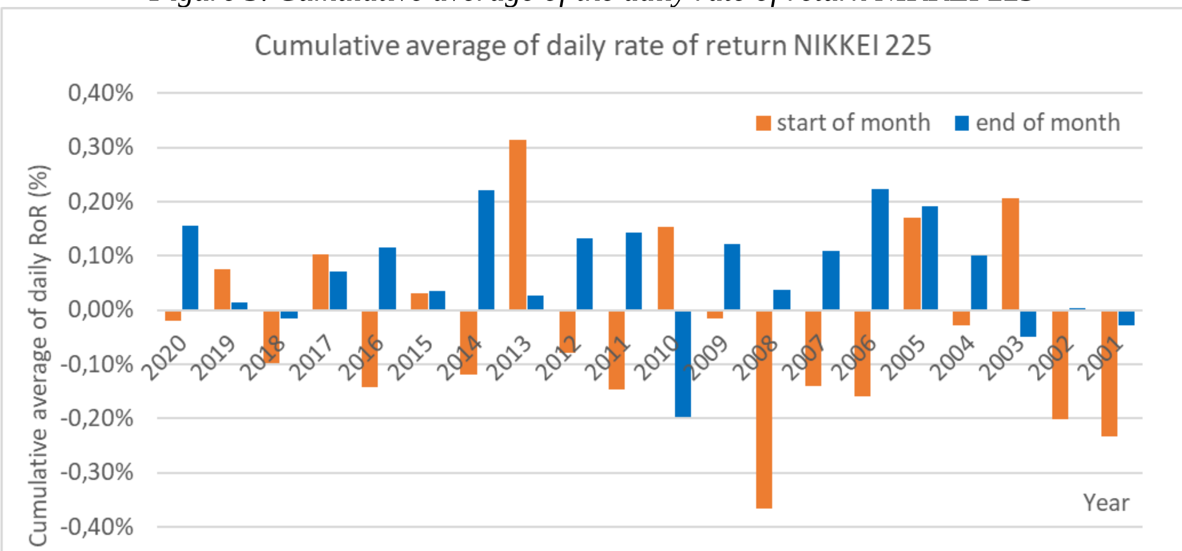
Figure 4. Cumulative average of the daily rate of return MOEX



Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

The development of the Japanese market represented by the NIKKEI 225 index is different from the Russian or American market. The effect of the "inverted" Monthly effect in terms of the largest difference between the positive and negative cumulative average rate of return is most evident in 2006, 2008 and 2014.

Figure 5. Cumulative average of the daily rate of return NIKKEI 225



Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

It is evident from the performed calculations that in the observed period 2001–2020, the Monthly Effect was present only in the US market represented by the DJIA and S&P 500 indices and in the Japanese market represented by the NIKKEI 225 index. In the US market, the Monthly effect manifested itself in its standard form, i.e. the rate of return on the first 9 trading days of the month was statistically significantly different from the rate of return on the last 9 trading days of the month, and was positive in the first 9 days of the month. In the Japanese market, however, the monthly effect manifested itself in the so-called "inverted" way, i.e. the rate of return in the first 9 trading days of the month was negative and the rate of return in the last 9 trading days of the month was positive, while the difference between the two rates was statistically significant. The identification of the "inverted" Monthly effect in the Japanese market fully corresponds to the results of the Jaffe study, Westerfield (1989). Thus, it seems that the "inverted" form of the Monthly effect on the Japanese market was typical not only in the 20th century but also persists in the early 21st century.

If the year 2008, distorted by the financial crisis, is excluded from the studies period, the effect of the Monthly effect also appears on the Russian market represented by the MOEX index, however, the significant effect of the "inverted" Monthly effect in Japan disappears.

The effect of individual days at the turn of the month was tested for time series in which the monthly effect was confirmed using the Wilcoxon signed-rank test above. Days with positive signs represent days at the beginning of the month while those with negative signs represent days at the end of the month.

Table 2. Results of the Wilcoxon signed-rank test of Monthly effect, individual days, 2001–2020

	2001 - 2020				2001 - 2020 (without 2008)					
index	NIKKEI 225		DJIA		MOEX		DJIA		S&P 500	
day	Z	Asymp. Sig. (2-tailed)	Z	Asymp. Sig. (2-tailed)	Z	Asymp. Sig. (2-tailed)	Z	Asymp. Sig. (2-tailed)	Z	Asymp. Sig. (2-tailed)
-9	-1,249	0,212	-0,349	0,727	-0,493	0,622	-0,504	0,615	-0,844	0,399
-8	-1,600	0,110	-1,293	0,196	-0,971	0,331	-1,496	0,135	-1,019	0,308
-7	-1,514	0,130	-0,976	0,329	-1,159	0,246	-0,830	0,406	-0,535	0,593
-6	-0,164	0,870	-1,345	0,179	-0,548	0,583	-1,446	0,148	-1,000	0,317
-5	-0,793	0,428	-0,828	0,408	-0,385	0,701	-0,869	0,385	-1,125	0,261
-4	-0,108	0,914	-1,891	**0,059**	-1,315	0,189	-1,334	0,182	-1,264	0,206
-3	-1,203	0,229	-1,568	0,117	-0,810	0,418	-1,415	0,157	-1,005	0,315
-2	-1,287	0,198	-1,381	0,167	-0,790	0,430	-1,197	0,231	-1,792	**0,073**
-1	-0,270	0,787	-2,415	**0,016**	-1,202	0,229	-2,913	**0,004**	-2,114	**0,035**
1	-1,447	0,148	-3,142	**0,002**	-3,113	**0,002**	-3,259	**0,001**	-3,434	**0,001**
2	-0,728	0,467	0,000	1,000	-1,364	0,173	-0,086	0,931	-0,316	0,752
3	-1,407	0,159	-1,283	0,200	-0,300	0,764	-1,526	0,127	-0,950	0,342
4	-0,738	0,460	-1,064	0,288	-1,352	0,176	-1,327	0,184	-1,469	0,142
5	-0,609	0,543	-0,073	0,942	-1,423	0,155	-0,102	0,919	-0,906	0,365
6	-1,676	**0,094**	-0,723	0,470	-0,075	0,941	-0,815	0,415	-1,167	0,243
7	-0,557	0,578	-0,009	0,993	-2,069	**0,039**	-0,087	0,931	-0,050	0,960
8	-2,069	**0,039**	-0,820	0,412	-2,721	**0,007**	-1,021	0,307	-1,149	0,251
9	-0,102	0,919	-0,398	0,691	-0,228	0,819	-0,176	0,860	-0,257	0,797
minimum n		235		234		222		222		222

Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

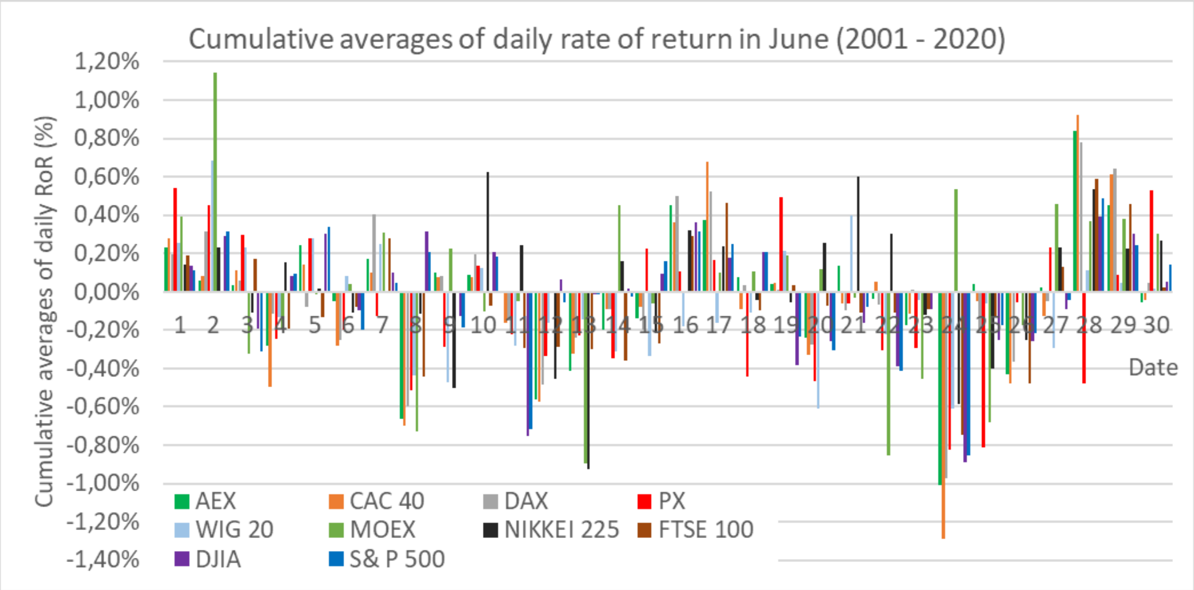
When considering data from the entire period, the Monthly effect of the NIKKEI 225 index is caused by the effect of the days at the beginning of the month, on the 6th and 8th trading days of the month. While the DJIA is affected by the days around the end of the month (-4, -1 and 1), the effect of the turn of the month is statistically significant at the 5% level of significance.

After the eliminating the year 2008, it turned out that the MOEX index is affected by the days at the beginning of the month (1, 7, 8) at the 5% level of significance. Changes in the rate of return at the turn of the month are very significant in the case of DJIA, where the average rate of return of the last day of the previous month and the first day of the following month is statistically significantly different from the others at the 1% level of significance. A similar effect is recorded for the S&P 500 index, in which the effect of the penultimate trading day of the month also has a significant effect.

4.2 Holiday effect

To test the occurrence of the Holiday effect, the end of June was chosen in comparison with the development for the whole month of June, i.e. the period before the school holidays and the summer holidays. If the Holiday effect is confirmed, the last business days in June should be characterized by high and positive yield. Figure 6, which shows the cumulative average daily rate of return during June, supports this idea.

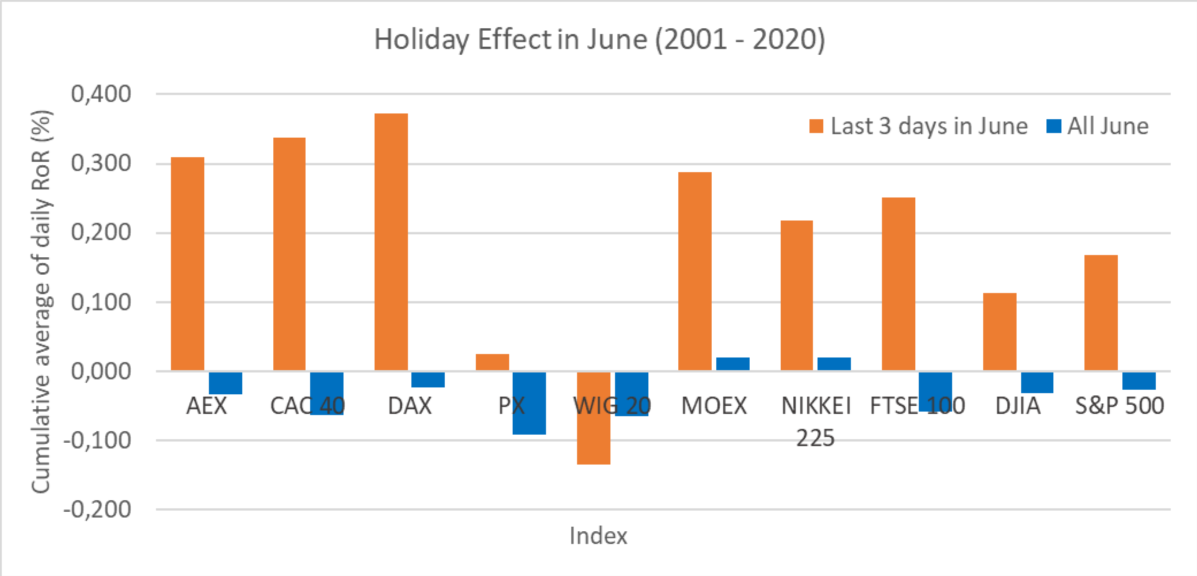
Figure 6. Cumulative average of the daily rate of return in June 2001–2020



Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

When testing the occurrence of the Holiday effect, the average rate of return values for the last three trading days in June for the whole period 2001–2020 and the average rate of return values for the whole month of June in each year were calculated. The equality of these averages was tested for each index using the nonparametric Wilcoxon signed-rank test, as all data do not meet the assumptions of using the parametric test of the equality of averages. The Holiday effect was tested for each index separately, therefore 10 tests were made. Figure 7 shows the calculated average daily rate of return for the last 3 days in June and the average daily rate of return for the whole of June.

Figure 7. Cumulative average of the daily rate of return in June



Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

It is evident from Table 3 that for the AEX, CAC 40, DAX and FTSE 100 indices, the paired tests were statistically significantly different from the average (at the 10 % level of significance), which shows that the average yield in the last three trading days of June is statistically significantly higher than the average yield for the whole of June.

Table 3. Results of the Wilcoxon signed-rank test of the Holiday effect, 2001–2020

Index	Z	Asymp. Sig. (2-tailed)	RoR average - last 3 days in June (%)	RoR average - all June (%)
AEX	-1,840	**0,066**	0,310	-0,034
CAC 40	-1,774	**0,076**	0,337	-0,063
DAX	-1,877	**0,060**	0,372	-0,023
PX	-0,759	0,448	0,025	-0,092
WIG 20	-0,677	0,498	-0,134	-0,065
MOEX	-1,391	0,164	0,287	0,020
NIKKEI 225	-1,141	0,254	0,217	0,020
FTSE 100	-1,708	**0,088**	0,251	-0,059
DJIA	-1,045	0,296	0,112	-0,031
S&P 500	-1,391	0,164	0,168	-0,027
minimum n	57			

Source: authors' work based on data from investing.com (AEX, CAC 40, DAX, WIG 20, MOEX, FTSE 100), finance.yahoo.com (NIKKEI 225, DJIA, S&P 500) and Patria Finance (PX) patria.cz

In the Dutch, French, German and British markets represented by national stock indices, the occurrence of the "summer" Holiday effect was thus confirmed by the calculations performed in the studied period.

5. CONCLUSION

The calculations performed on the data for the period 2001–2020 brought interesting results. In the first place, they pointed to the permanent existence of certain seasonal patterns in the development of stock prices in various markets. On the other hand, it seems that a certain seasonal anomaly is not a reality for all markets, but only for some markets in the sample, and this paper did not identify a market where both investigated anomalies were present at the same time. According to tests, the Monthly effect is typical for the American and Japanese markets, while the Holiday effect appears exclusively in European markets.

Of the 10 monitored indices representing 9 national markets, the manifestations of the Monthly effect in the observed aggregate period 2001–2020 were statistically significantly identified in only 3 stock indices, namely the DJIA, S&P 500 and NIKKEI 225 indices, for which, however, we can speak about the so-called "inverted" Monthly effect, which, however, was typical for the Japanese market also in the last century. It turns out, then, that the Monthly effect has been a matter for the US and Japanese markets alone for the past 20 years. If the "crisis" year 2008 were excluded from the observed period 2001–2020, the manifestations of the Monthly effect would remain statistically significant for both US indices, newly for the Russian index, but not for the Japanese index anymore. The statistical explanations above can be used for these results.

The existence of the Holiday Effect at the end of June, i.e. in the period before school holidays and summer holidays using the same set of 10 indices and the same period 2001–2020, was demonstrated in the Dutch, French (both markets are part of the Euronext joint alliance), German and British markets, on which statistically significantly higher gains were achieved at the end of June. Surprisingly, the "summer" holiday effect did not appear on the American nor Japanese market. It is clear that while the summer holidays have a significant effect on the behaviour of European investors, this is not the case for American investors. It can be assumed that for American investors, the Holiday effect could be noticeable before another holiday period (e.g. Thanksgiving Day, which falls at the end of November or in December before Christmas). After all, these considerations offer considerable scope for further research.

The proven occurrence of the Monthly and Holiday effect is in complete contradiction with the efficient market hypothesis. If there are certain patterns in the development of stock prices on these markets, their existence can be used in the construction of investment strategies that can be expected to bring the investor an above-average return. In the case of the classic Monthly effect, it is advisable to make sales between the third and half of the month when the rates are highest, while the appropriate time for purchases comes at the end of the month when the rates are lower. If there is a "summer" Holiday effect, advantageous sales at the highest rates can be realized at the very end of June, specifically 1–3 days before the start of the holidays. The intensity and geographical occurrence of anomalies change over time. With the disappearance of the effect, of course, the rational basis for a successful investment strategy would disappear, and therefore it makes sense to deal with the issue of anomalies in the stock markets repeatedly, always after a certain time and in different markets.

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SUMMARY AND FINAL COMMENTS

The **8th edition of the International Scientific Conference IFRS: Global Rules & Local Use – Beyond the numbers** was organized as an online event due to unpredictable development of situation with pandemic COVID-19.

Topics of this year´s conference covered various aspects of IFRS implementation in the context of varied national and cultural environments, as well as topics from the area of international business and the topics analysing the impact of COVID-19 on various aspects of academic life and research. Conference papers arrived from the international audience – including, Czech Republic, Germany, Poland, Romania, Slovakia and Turkey.

All contributions went through double blind and sometimes triple blind review process, and the proceedings are prepared for submission to Clarivate (formerly Thomson Reuters as in previous years). The proceedings from years 2014–2018 are indexed in the core collection.

This year from the point of organization we need to highlight namely the support on the side of organisers and IT support providers. Their work had tremendous impact on the quality of the whole event because this year the conference turned to be a big challenge since we had to overcome obstacles stemming from the lack of face to face contact.

Many contributions covered very interesting and up to date and topics worth further elaboration for scientific journals. The conference is collaborating with some CEE journals which could offer some new publication opportunities after the further elaboration of the original conference contribution.

To sum up, the conference contributions provide open-minded insight into the current state of contemporary accounting and finance topics, the state of implementation of IFRS in different areas of national economies, including current conditions of non-financial reporting to enhance better evaluation of the current situation.

This collection of conference contributions is intended to provide for dissemination of new findings presented at the conference amongst interested parties on this issue and to further inspire new research in this area.

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IFRS:
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