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EFFECTS OF IMPLEMENTING (FINANCIAL) CONTROLLING ON BUSINESS PERFORMANCES OF SMALL AND MEDIUM-SIZED ENTERPRISES IN THE FEDERAL STATE OF BAVARIA

Emira Kozarevic
University of Tuzla, Bosnia and Herzegovina
E-mail: emira.kozarevic@untz.ba

Zijad Vehabovic
Corresponding Author: Quality Management, NAF Neunkirchener Achsenfabrik AG,Germany
E-mail: Zijad.Vehabovic@nafaxles.com

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Abstract

The goal of controlling as company's function is to provide (through analysis, controls and recommendations on actions to be taken) company's long-term economic stability, profitability, and competitiveness. Bearing in mind the aims of controlling and its effect on company's business activities, the main research hypothesis was postulated for the research, stating that the introduction and implementation of financial controlling results in better performance in business activities of small and medium sized enterprises in the Federal State of Bavaria. In order to confirm the main research hypothesis, an empirical research consisted of two parts, primary and secondary, was conducted on the territory of this federal state. The realization of the primary research included the previously designed and analyzed questionnaire. The survey was conducted on the territory of the Federal State of Bavaria and it focused on small and medium sized companies in various sectors. The second, empirical part of the research included the analysis of financial reports taken from the Federal Gazette using financial indicators for 15 companies in the transport sector for three successive accounting periods (prior to, during, and after the introduction of controlling function). Both the results of the survey and the results of the financial analysis showed that the implementation of financial controlling in organizational structures of the companies surveyed had a significant effect on company`s business performances. In addition, the participants believed that financial controlling has a very important role in realizing company's goals and that it positively influences internal and external transparency of a company.

Keywords: Financial Controlling, Small and Medium-sized Enterprises (SMEs), Federal State of Bavaria

1. Introduction

Controlling has been one of the main management functions since the division of management in smaller parts (Misun and Misunova Hudakova, 2019). The function of controlling is an interdisciplinary function of a company, with the tasks to plan, supply information, control and analyze company's processes, aimed at the realization of company's goals. In practice, the function of controlling found its use in primarily large companies active internationally. Lately, especially after the escalation of the global financial crisis in 2008, in developed economic environments the function of controlling has become one of the key functions in not only large but also small and medium-sized enterprises.

Taking into account the importance of controlling in small and medium-sized companies, the general aim of the research is to analyze the effects of implementation of financial controlling on the performances of business activities of small and medium-sized enterprises (SMEs), with the geographical focus on the Federal State of Bavaria. Previous studies in this area have mainly dealt with the question of how controlling can be introduced and implemented in SMEs. Accordingly, previous studies have focused on organizational aspects such as the structure of the controlling function, controlling personnel or controlling instruments. Compared to previous studies in this subject area, the aim of this study was to measure the influence of the introduction and implementation of controlling on business performances of SMEs on the mentioned territory. The paper, in line with the research limitations considered, shall analyze the relationship between the implementation of financial controlling and its effects on company's business performances, measured by the appropriate set of financial indicators.

The main research hypothesis was postulated, stating that the introduction and implementation of financial controlling has a positive effect on the performances of company's business activities.

The paper consists of three main parts. The first part includes the previous research in similar fields. The second part includes the definition of controlling as a term and its distinction from the terms such as control, planning, etc. The third part of the paper brings the research methodology with a detailed description of the research sample and the questionnaire as well as the discussion of the survey results and the analysis of financial reports of the surveyed companies.

2. Previous research

The perception and importance of controlling has changed and evolved throughout its history. In the last few years, the function of controlling has been an increasingly frequent subject of research articles. In parallel, there has been a strong trend of the development of controlling in practice, in terms of its implementation in company's business activities.

2.1. Previous studies on controlling

In Germany, the number of studies has been on the contact increase since 1970. This trend is primarily the result of the foundation of a larger number of departments of controlling at German universities and of the more significant implementation of controlling in practice. The analysis of different sources shows the diversity of the range of previous studies on controlling.

The size and structure of the managerial function in a company highly influences the function of controlling in small and medium-sized companies in Germany. The function of controlling most frequently has the advisory role and most often its bearers are controllers and managers. For company's owners, the highest benefit of implementing controlling is in the field of business results, preparation of business reports, etc. (Becker *et al.* 2008a).

In order to implement the function of controlling in the practice of SMEs in Germany, various concepts and instruments of controlling are used. For example, we distinguish the following concepts of the function of controlling: provider of information, coordinator among various functions of a company, part of the managerial function, planning and control aimed at making profit, etc. Various concepts imply the application of various instruments that can generally be grouped as strategic and operating instruments of controlling, with the further division into qualitative, quantitative, prognostic, heuristic, etc. (Becker *et al.* 2008a).

Although there are many similarities, the function of controlling is different from the function of accountancy and audit. The function of controlling can perform its tasks exclusively based on the data and information obtained from the accountancy function. However, unlike auditors, controllers as the most frequent bearers of the function of controlling, take an active role in company's making decision processes (Roman *et al.* 2014).

Considering the growing demands of companies towards controllers and their increasingly growing role in decision-making processes, the role and qualifications of controllers have significantly changed over the last few years. First of all, controllers are expected to possess the key competences related to the knowledge of management, finance, and accounting. In addition, an important factor in the selection of persons for controlling sectors is their ability to apply their professional expertise in companies in various business environments, both legal and cultural as well as in various business climates, organizations, and cultures within companies (Durstmüller *et al.* 2017).

The role of the function of controlling is primarily to provide support to company's management in making various operating and strategic decision. The controlling function, namely, often plays an advisory role in the implementation of operational and strategic goals and plans, and provides inputs for creating measures to manage the discrepancies between planned and achieved (Kozarevic *et al.* 2019a).

2.2. Previous research on the influence of controlling on company's business performances

The very definition of the function of controlling explains the purpose of its establishment and integration into company's structure, which is precisely the support to company's management in the realization of business goals. However, how the controlling function would be organized and implemented depends on various factors.

In the context of the significance of controlling for company's financial soundness, it is worth mentioning that 79% of the surveyed insolvency administrators at the Center for Insolvency and Reorganization at the University of Mannheim identified the lack of controlling in companies as the most frequent reason of inefficient business activities and insolvency. Other important factors include the lack of account receivables management, insufficient transparency and communication, problems with human resources, and uncontrolled growth of the company (Baden, 2006). For example, collection of account receivables is extremely important for every company and it is one of the most sensitive aspects of business, especially in the time of market instability and illiquidity. Due to debtor's late payment or lack of payment, companies (*i.e.* creditors) face difficulties in business activities. This brings lower business results and makes them unable to pay their obligations in time. Every company faces the lack of payment discipline and the best prevention is to regularly check the solvency and reputation of its business partners and reject doing business with those that experience difficulties in payment. A decrease in costs of collection of account receivables is made by the establishment of controlling departments (Kozarevic *et al.* 2019b).

Strategic controlling in SMEs is primarily conditioned by company's size and the influence of the family that is most frequently the owner of the company. In such companies, the tasks of strategic financial controlling are often taken by external advisers and experts in the field of controlling. Regardless of the way of organizing and executing the tasks of strategic controlling, its implementation has positive effects on company's financial performances, on company's validation in terms of its sale and purchase as well as on the reduction of insolvency risk. In addition, strategic controlling is very significant for company's flexibility regarding changeable business environment and for the easier transfer of knowledge within the company (Hiebl, 2017).

3. Data and methodology
3.1. Data

The conducted research consisted of two parts, primary and secondary. The primary part was conducted based on the database of the Ministry of Economy, Economic Development and Energy Sector of the Federal State of Bavaria. The appropriate filtering resulted in 3,944 companies in the database, which stood for the basic set for the research. By random sampling, respecting the usual threshold of representativeness of 5%, 200 companies were selected from this basic set in various sectors (200/3,944 = 5.07% of the companies).

The response rate and company's willingness to actively participate in the survey were not satisfactory. This is primarily caused by the positive conjuncture and the "boom" of market demand in almost all industries. Consequently, a significant number of the contacted companies was not able to handle everyday operating activities with the available human resources, which caused the reduction to the minimum of their activities in socially useful projects or even their temporary rejection. Out of the total number of the questionnaires sent, 36 companies actively participated in the survey process, and they filled in the questionnaires. Relatively seen, the return rate of the filled questionnaires was 18%.

Table 1 presents the return rate of the questionnaires in previous studies in similar fields. Bearing in mind the heterogeneity between the sample and the basic set, the filled questionnaires and the obtained data were found in these studies to be representative and were then used for further analysis. As our research did not have significant heterogeneity between the sample and the basic set and the return rate of the filled questionnaires was above the average of the previous studies, the data obtained through a survey in this research were also assessed as relevant. Regardless of the below presented arguments, the results need to be examined as the pilot results of a larger research. Considering the geographical dimension of the analyzed territory and the absolute number of the companies in the analyzed sector, further research should collect a significantly higher number of information in order to achieve statistically stronger reliability of information and conclusions made based on the survey.

Table 1. Return rate of filled questionnaires

	Year of the survey	**Sample size**	**% of filled questionnaires**
Bussiek (1981)	-	208	21.1%
Lanz (1990)	1986	420	13.7%
Dintner and Schorcht (1999)	1994	103	10.3%
Ossadnik *et al.* (2003, 2004)	2002	155	11.8%
Rautenstrauch and Muller (2005, 2006)	2003	188	12.0%
Flacke (2006)	2004	157	7.0%
Feldbauer-Durstmuller *et al.* (2008)	2007	236	20.0%
Becker *et al.* (2008)	2008	63	14.7%
The research presented in this paper	**2018**	**200**	**18.0%**

Source: Authors' research

The second, empirical part of the research included the analysis of financial reports taken from the Federal Gazette using financial indicators for 15 companies in the transport sector for three successive accounting periods, *i.e.*prior to, during, and after the introduction of controlling function.

3.2. Methodology

The primary research was used for collecting data on the sample companies while the secondary research was used for the analysis and systematic organization of the previous knowledge in the field of controlling, based on different sources. The realization of the primary research included the previously designed and analyzed questionnaire. The survey was conducted on the territory of the Federal State of Bavaria and it focused on small and medium-sized companies in various sectors.

The empirical part of the research, which analyzed the data collected through a survey, primarily used the methods of descriptive statistics. For this research, small and medium-sized companies are specified according to the definition given by the Deloitte Institute of Bamberg University which defines small and medium-sized companies as all companies up to 3,000 employees and/or annual income up to €600 million. Apart from the quantitative indicators, the Deloitte Institute also considers qualitative factors such as family character of ownership, individual ownership of the entire company, and strong link between ownership and management functions in a company (Becker *et al.* 2008).

The survey examined a random representative sample of 200 companies in various sectors. Using the methods of descriptive statistical analysis, a more detailed analysis of the sample companies was made. The analysis included the following aspects: company classification per sectors, the amount of income and number of employees, presence of the controlling function, the means of organization and implementation of controlling, the relation between the management function and the function of controlling, implemented types and instruments of controlling, and the influence of controlling on company's business success.

Apart from the questionnaire, the second, empirical part of the research included the analysis of financial reports using financial indicators for 15 companies in the transport sector for three successive accounting periods − prior to, during, and after the introduction of controlling function. The results of the analysis of financial reports were also used as an input for testing the research hypothesis.

4. Research results

4.1. Descriptive statistical analysis

4.1.1. Sample description

The analysis of the responses from the questionnaires, it was found that the highest number of the surveyed companies belonged to the logistics sector, more precisely transport, 42% in total. They were followed by the companies in the field of mechanical engineering and automobile industry (14% each), while the remaining 30% were the companies in the sectors of consulting, civil engineering, electrical engineering, etc. When it comes to the legal structure of the surveyed companies, most of them were limited liability companies (72%), then shareholding companies (19%) while the remaining companies did not provide this information.

In accordance to the Becker *et al.* (2008b)`s definition of small and medium-sized companies, the survey included 22 companies with up to 300 employees, eight companies with up to 30 employees, and six companies with up to 3,000 employees. In terms of the total annual income, 12 companies generated up to €6 million, 18 companies generated up to €60 million, and six companies generated up to €600 million.

When it comes to the company management, 17 companies were characterized by the family management, 11 companies had one owner who was also company's general manager, while eight companies had separate functions of ownership and management and they were run by the management team.

4.1.2. Presence and implementation of controlling

The fundamental task of controlling is to establish and improve high-quality processes of planning and control and to support managerial activities, aimed at successful realization of company's goals. Controlling executes this task by constantly establishing the standards in planning, defining clear procedures in planning and responsibilities, dealing with processes and mechanisms regarding control of effects of business processes, and supporting company's management in such a way that managerial functions contribute to the realization of company's goals, meaning company's survival and the growth in its value (Polic *et al.* 2016). Hence, it is not surprising that controlling increasingly becomes the key and inevitable function in company's organizational structure.

The research showed that 92% of the companies surveyed had the function of controlling in their organizational structure, which is evident in Figure 1.

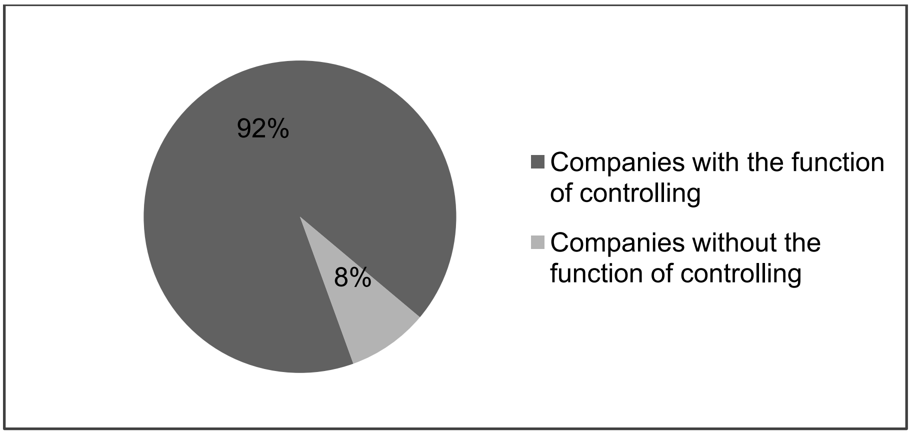

Figure 1*. *Company structure by the presence of the function of controlling
Source: Authors' research

The mode of organization and implementation of the controlling function is rather diverse. From the organizational aspect, controlling is most often the (sub)function within company's accounting and finance department (47% of the companies). The reason for this is primarily evidenced in the fact that the function of controlling is strongly linked to the functions of accounting, finance, auditing, etc. On the other hand, the functions of accounting and finance became the obligatory part of company's structure much earlier, while the function of controlling and its tasks gradually separated and grew out of the functions of accounting and finance. In a significant number of the companies (32%), the function of controlling is within the function of management. This phenomenon is completely understandable as in many companies their owners or managers are interested in company's plans and goals, while using the methods of controlling to monitor and analyze these plans and goals. In the remaining companies, the function of controlling exists as a separate function or a subfunction in several departments.

The tasks of controlling include, among other elements, preparing of various types of reports, controlling company's department budgets securing liquidity, defining procedures, rules and standards for company's key processes, etc. In the majority of the cases, these tasks are entrusted to controllers and financial accountants (37% and 29%, respectively). In the remaining percentage of the companies, the tasks of controlling are partially executed by company owners and managers.

Two types of controlling are most frequently observed in practice − strategic and operating. While strategic controlling is long-term, focusing on company's long-term goals, operating controlling is short-term, focusing on company's operating goals. Also, strategic controlling is typically implemented in large companies with international business activities. This research found that somewhat over 50% of the companies have operating controlling in their practice, while the survey showed that the remaining companies surveyed implement operating as well as strategic controlling. In order to analyze the actual implementation of strategic controlling, the research also analyzed the most frequently used instruments of controlling. Various types of controlling have been implemented in the theory and practice of controlling. One of the divisions of these instruments is into those for operating and strategic controlling. The most frequently used instruments of operating controlling are:

- ABC analysis,
- XYZ analysis,
- Break-even point,
- System of financial indicators,
- Budgeting, *etc*.

- On the other hand, the most frequently used instruments of strategic controlling are:
- Portfolio analysis,
- Cost-benefit analysis,
- SWOT analysis,
- Balanced Scorecard, etc. (Pietsch, 2012).

The analysis of the survey results showed that the systems of financial indicators were most frequently used instruments of controlling (92%). They are followed by ABC analysis and break-even point analysis. Few companies applied strategic instruments of controlling such as benchmarking, six sigma, SWOT analysis, etc.

Based on the most frequently used instruments of controlling, we can conclude that the small and medium-sized companies in the Federal State of Bavaria mostly use operating financial controlling. These instruments mainly deal with the position of balance sheet and income statement, such as financial resources, liabilities, account receivables, stocks, etc.

4.1.3. Introduction and effects of controlling implementation

Quite a significant number of empirical studies point the importance of small and medium-sized companies seen as the bearers of the economic development of a country. Small and medium-sized companies have strong advantages when compared to large companies in terms of flexibility, transparency, etc. On the other hand, unlike large companies, they are often faced with the challenges in terms of limitations in human, financial, and material resources. These reasons are precisely the cause of difficult introduction and superficial implementation of controlling in the practice of small and medium-sized companies (Hiebl, 2017).

The results of the research reported in this paper confirm the conclusions and observations of previous studies in this field. Two thirds of the surveyed companies believed that significant investment was needed for the introduction and implementation of controlling. The reasons for such an opinion are primarily related to the fact that controlling usually requires high quality staff with long experience and high personnel cost, along with significant investment into appropriate software and hardware infrastructure.

However, thorough understanding and implementation of controlling can bring various positive effects on company’s business activities. According to the results of the survey that included 124 insolvency administrations and 19,000 insolvency procedures, the lack of controlling or low-quality implementation of controlling in practice are the main reason (79%) of company’s insolvency (Flacke, 2006).

The research reported here also included the effect of controlling on company’s business performances. First, the effect of controlling on company’s transparency was analyzed. We considered the transparency of a company and its processes as an important aspect of our research, as the insufficient transparency of the processes within a company often causes personal conflicts and inefficient processes and hides significant potentials for company’s development. This research showed that after the introduction of controlling, almost all the companies surveyed saw positive effects in terms of increased both internal and external transparency of a company.

The research further analyzed the importance of controlling in the realization of company’s business goals. The majority of the surveyed companies (96%) considered the function of controlling as rather important or important for the realization of company’s business success. A very small percentage of the companies thought that the function of controlling did not play a significant role in achieving business success. We believe that the reason for such a statement is linked to the fact that these companies are active in very stable sectors and have the monopoly in the form of specialized knowledge, patents and natural resources, which, due to constantly growing demand, enables them to achieve increasingly better business results without the function of controlling.

It is generally known that companies may have different goals such as income growth, reduced complaint rate, acquisition of new markets, profitability growth, etc. From the perspective of capital owners, one of the most practical indicators is company's profitability as it can be used to create the view of the company status in a fast and simple way.

Hence, the last part of the survey included the analysis of the effect of the function of controlling on company's profitability. The results presented in Figure 2 show that out of the total number of companies surveyed, 88% believed that the introduction of controlling in company's business activities had a positive effect on its profitability. Profitability growth, owing to the introduction of the function of controlling, may be the consequence of expenditure reduction and the optimization of internal processes as well as of the improvement of income generation through controlling sales, investment, etc.

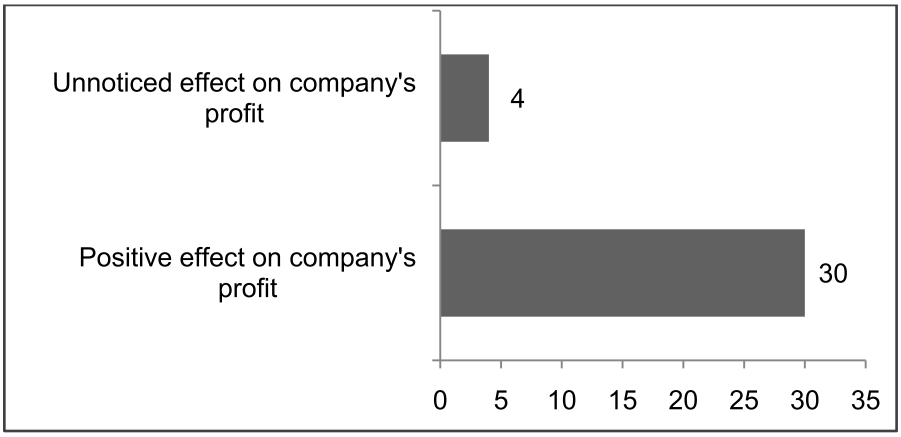

Figure 2. Effect of controlling on profitability
Source: Authors' research

4.2. Analysis of financial reports

Data collection by means of a survey is one of the most frequent and practical methods used in empirical research. Apart from a series of advantages, the survey method also has some significant disadvantages which can be divided in three groups. The first group includes epistemology difficulties that may appear as a result of differences in participant expertise, which is why their answers may have different values but are equally counted in statistical analysis. The second group includes psychological challenges as a result of problems in adapting the survey to all participants. In addition, there are social difficulties based on the tendency of participants to give the answers in accordance to the social values, which is why the results are better than the actual situation.

In order to neutralize the disadvantages of the survey and to check the results obtained, the second part of the empirical research included the analysis of financial reports of a given number of companies. This allowed us to quantify the effects of introduction and implementation of the function of controlling on company's business activities, bearing in mind all the research limitations.

The analysis of financial reports was conducted for 15 companies in the transport sector. The selected companies also stood as the sample from the basic set of 170 companies and the database was the same as in the survey process. Bearing in mind the sample size (15/170 = 8.8%), the usual threshold of representativeness of 5% was secured in this segment of the research. In order to examine the effect of the introduction of controlling on company's business performances, for each of 15 companies in the sample three successive accounting periods were analyzed before, during and after the introduction of controlling. It is important to emphasize that some of the analyzed companies were not able to provide the exact information on when they introduced controlling in their business activities. This is partly due to the fact that in practice, there is often not a clear "cut" and companies execute controlling tasks within some other functions prior to the official introduction of the function of controlling in company's structure.

The analysis of financial reports included the analysis of four groups of financial indicators whereby the indicators selected were those most frequently used in the theory and practice of financial analysis.

4.2.1. Analysis of liquidity ratios

Controlling of financial assets and the related liquidity of a company are a very important segment of financial controlling. That is why within the analysis of financial reports, we also analyzed the most frequently used ratio of company's liquidity –liquidity ratio [equation (1)] and its application influenced by the introduction of financial controlling. The trend of development of this ratio is showed in Figure 3.

$$Liqudity\ ratio = \frac{Net\ current\ \ assets}{Current\ \ liabilities} \tag{1}$$

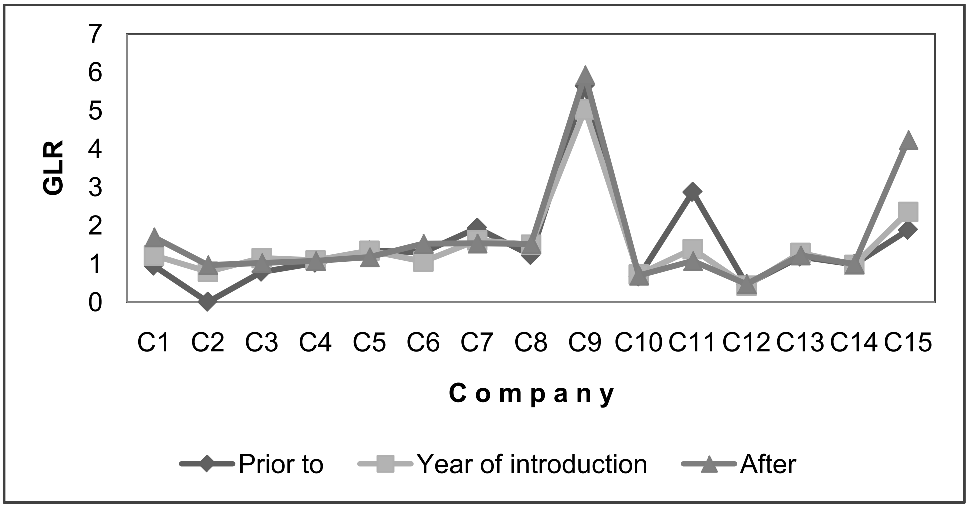

Figure 3. Liquidity ratio
Source: Authors' research

The results of the analysis showed that the majority of the companies after they introduced the function of controlling registered the liquidity ratio value above 1, which means that the net current assets were higher than zero. We also noticed the improved value of this ratio after the analyzed companies introduced controlling, except in the companiesC7 and C11. In addition to the liquidity ratio, we also analyzed the net working capital [equation (2)]. It is worth mentioning that there is no universal rule for this ratio that could be applied for all companies and sectors.

$$Net\ working\ capital = Current\ assets - Current\ liabilities \tag{2}$$

Financial analysis showed that, generally speaking, the introduction of the function of controlling had a positive effect on the development of the net working capital. As evident in Figure 4, in most cases the net working capital had a positive value, which means that mainly all the short-term assets of the surveyed companies were financed by short term sources of assets. The company C2 registered a negative value of this ratio, meaning that it used short-term sources of assets to finance a significant portion of its fixed capital.

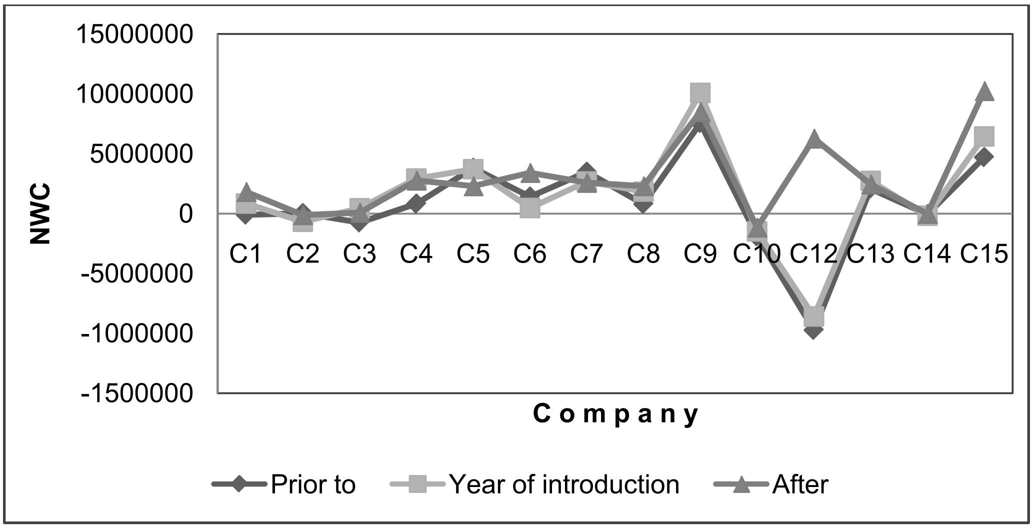

Figure 4. Net working capital (NWC)
Source: Authors' research

Apart from the net working capital and the liquidity ratio, we also analyzed the current ratio [equation (3)]. The current ratio is the indicator of horizontal financial structure, calculated as the ratio of current assets and current liabilities. Respecting the rule of thumb, the desired ratio is 2:1 in favor of current assets. The results of the analysis showed that the introduction of the function of controlling brought a certain improvement of this ratio in terms of its growth. Qualitative evaluation of this trend requires a detailed analysis of the positions of current liabilities and current assets, as at first sight, it is not possible to establish the cause of the improvement of this ratio. The results of the analysis are given in Figure 5.

$$Current\ ratio = \frac{Current\ \ assets}{Current\ \ liabilities} \qquad (5)$$

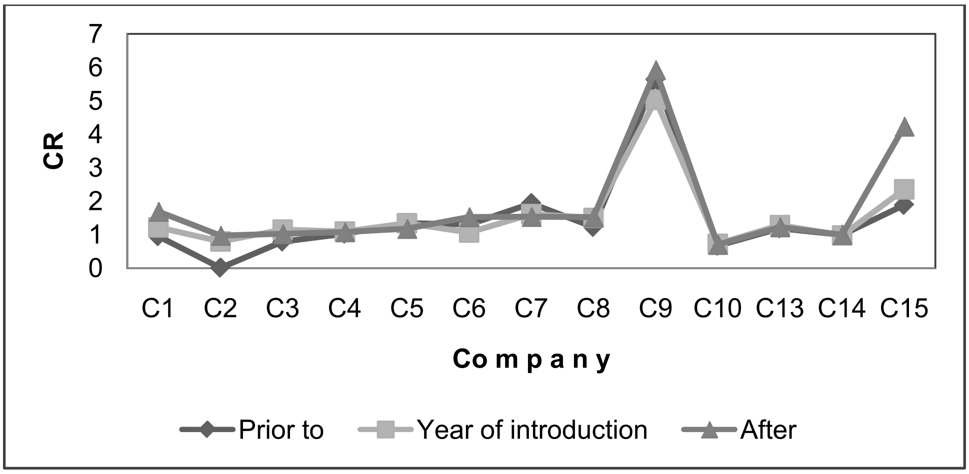

Figure 5. Current ratio (CR)
Source: Authors' research

4.2.2. Analysis of activity ratios

Financial ratios of activity provide the information on how efficiently companies run their operating assets. As a part of this analysis, we analyzed two most frequent financial ratios–the accounts receivable turnover ratio [equation (4)]and the inventory turnover ratio[equation (5)].

The accounts receivable turnover ratio shows how many times receivables are collected during the calculation period, thus creating turnover. The goal is naturally for this ratio to have the highest value possible, which implies a shorter period of collection. Figure 6 shows the trend of improvement following the introduction of the function of controlling. The exception is the company C2, which registered a significantly higher ratio prior to the introduction of controlling.

$$Accounts\ receivable\ turnover\ ratio = \frac{Net\ credit\ sales}{Average\ accounts\ receivable} \quad (4)$$

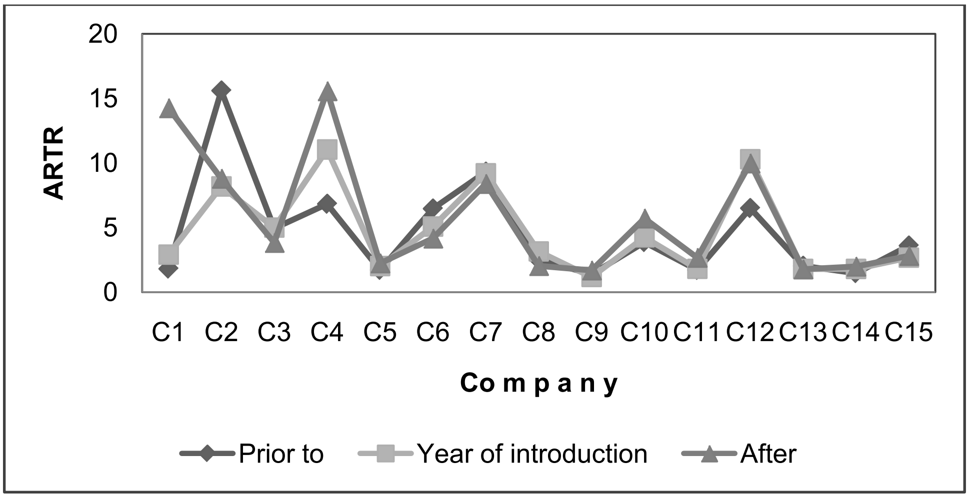

Figure 6. Accounts receivable turnover ratio (ARTR)
Source: Authors' research

The inventory turnover ratio, similarly to the previous one, provides the information on the number of times inventory is sold or used in the calculation period. Bearing in mind different values of the inventory turnover ratio that depend on the values of the positions necessary for its calculation, for the sake of clarity, Figure 7 presents the values for several companies only. The results of the analysis show that in several companies, there was a significant improvement of this ratio while in other companies this effect was not evident.

$$Inventory\ turnover\ ratio = \frac{Costs\ of\ goods\ sold}{Average\ inventory} \quad (5)$$

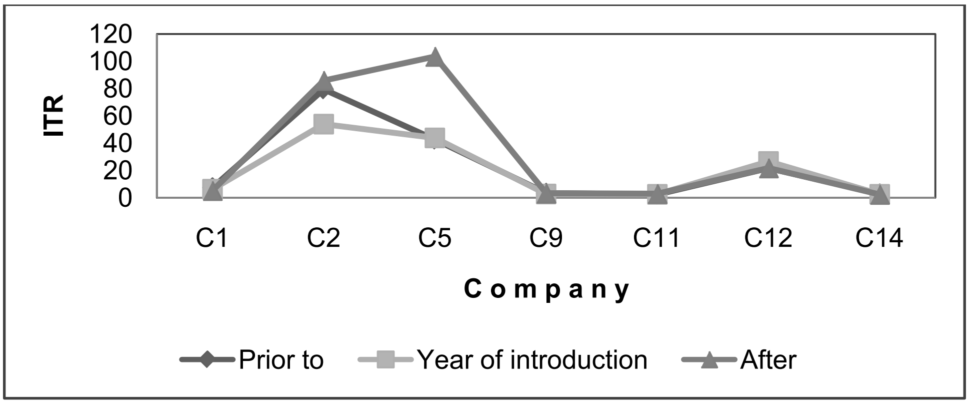

Figure 7. Inventory turnover ratio (ITR)
Source: Authors' research

4.2.3. Analysis of leverage ratios

In the analysis of leverage ratios, we analyzed financial leverage that provides the information on vertical financial structure in debt on a balance sheet or the own-borrowed assets ratio of a company. The results of the analysis of financial reports showed a significant heterogeneity when it comes to the value of this indicator. Such heterogeneity is not rare in practice, since companies constantly attempt to secure long-term growth and thus often reach to borrowed sources of assets, which they then seek to invest in the projects with return rates higher than the cost of the borrowed resources.

4.2.4. Analysis of profitability ratios

The last group of ratios that we analyzed through financial reports of the companies includes profitability ratios. Strictly speaking, these ratios are most important for both, company owners and external partners of companies. By all means, the importance of other business indicators is undisputable as the stable economic development of companies requires the balance between properly managing working capital, financial resources, fixed assets and managing financial structure of the company. The effect of the introduction of controlling on the profitability of the analyzed companies was examined primarily through the trend of return on total assets of the company[see equation (6)].

$$Return\ on\ assets = \frac{Net\ income}{Total\ \ assets} \tag{6}$$

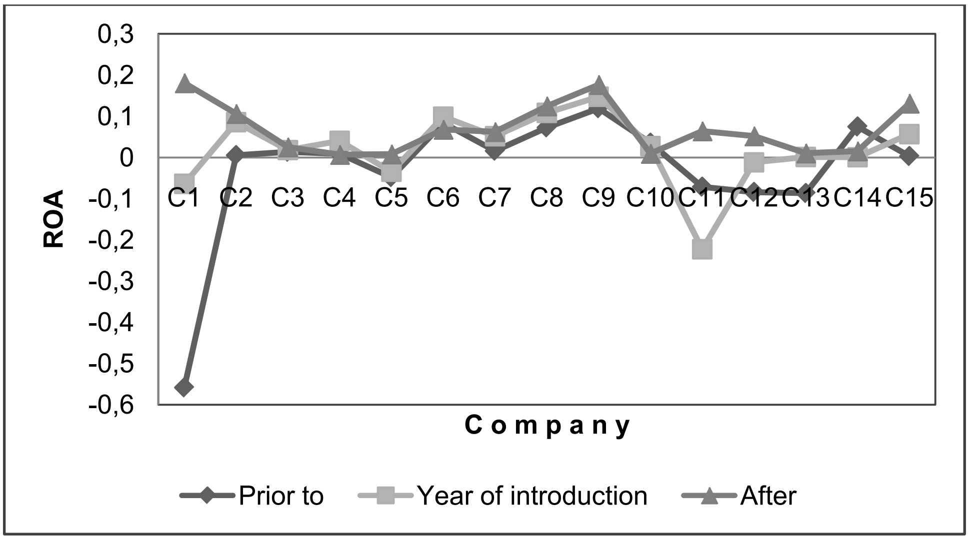

Figure 8. Return on assets (ROA)
Source: Authors' research

Figure 8 shows that the value of ROA is systematically higher after the introduction of the function of controlling. In several companies, it is evident that prior to the introduction of controlling or even in the year of its introduction, they suffered losses while the introduction of controlling resulted in higher return on assets or at worst, reduced loss compared to the previous periods.

Return on equity (ROE), or the financial return [see equation (7)], is one of the most important indicators that shareholders use to evaluate the return of the capital invested in the company (Baciu and Petre, 2018). As for the previous indicator, it is evident that the introduction of controlling had a positive influence on the rate of ROE (see Figure 9). Several companies registered a significant business success evident in passing from the negative to positive values. This means that after suffering business losses, the companies were able to make profit after they introduced the function of controlling.

$$Return\ on\ equity = \frac{Net\ income}{Share\,holders\,'\ equity} \tag{7}$$

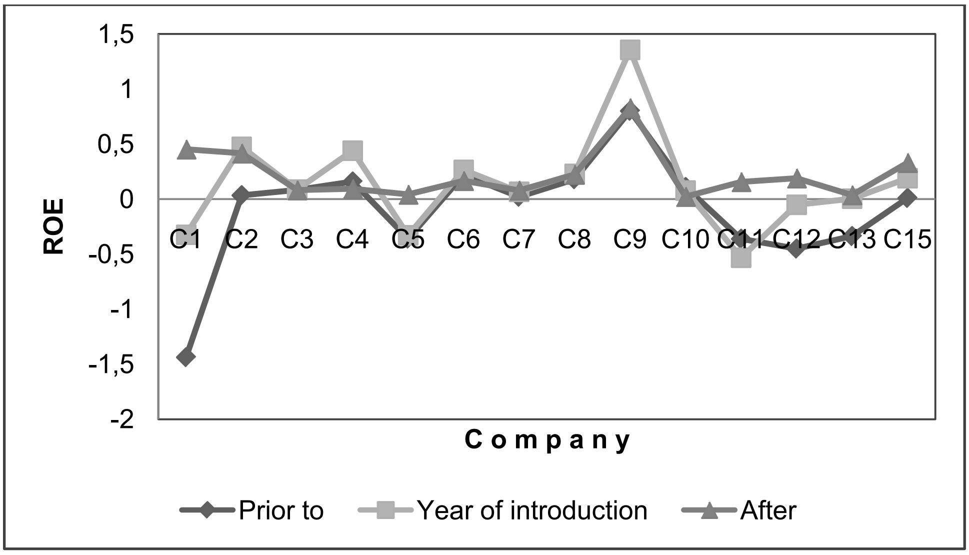

Figure 9. Return on equity (ROE)
Source: Authors' research

However, it needs to be emphasized that the growth of ROA and ROE does not necessarily have to be the result of the introduction of financial controlling. The theory and practice of various companies shows this fact without any doubt. However, bearing in mind the limited access to the information on the companies whose financial reports were analyzed, it is impossible to claim with certainty that the function of controlling is the only reason for increased profitability or improvement of other financial indicators of the companies. Company's improved business performances may be caused by investing into modern technology, marketing campaign, automatization and systematization of production, etc. That is why the definite answer to increased profitability ratios and other indicators should be reached by applying the approach of complexity science.

5. Conclusion

Controlling does not mean control as a managerial function but as a special business function dealing with the establishment of efficient processes of planning and controlling company's business activities (by adopting appropriate procedures, selecting quantifiable indicators of performances and establishing and applying standards) as well as with the coordination of such processes in order to provide support to company's management during the identification and realization of business goals. As such, controlling is "the right hand" of the company management since it directly affects two of its functions – planning and control. In addition, controlling coordinates individual business functions (finance, sales, human resource management, etc.) into a unique compact unity for the sake of maximizing company's efficiency and effectiveness.

The results of the empirical research show that 92% of the surveyed companies had the function of controlling integrated in their organizational structures, while 88% of these companies believed that the application of financial controlling had a significant effect on company's profitability. The means of organization and implementation of controlling is diverse [for example, in some companies it was (sub)function within company's accounting and finance department in others within the management, etc.]. When it comes to the types and instruments of controlling, most frequently applied were operating financial controlling and financial indicators, respectively.

The participants believed that financial controlling had a very important role in the realization of company's business goals and success and that it positively affected the internal and external transparency of company's processes. In order to neutralize the survey disadvantages and to check the results obtained by a survey, the analysis was made of financial indicators for a certain number of the companies in the transport sector that filled in the questionnaire in three successive periods (prior to, during, and after the introduction of controlling function). The analysis of financial reports included four groups of financial indicators (liquidity, activity, debt, and profitability). However, one of the limitations of this research is a relatively small number of the participants, which is why further research should focus on collecting a more significant quantity of information. This would result in higher reliability of the conclusions made on the basis of the same type of the survey.

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