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MANAGEMENT OF WORKING CAPITAL – THE ACHILLES HEEL OF SMALL AND MEDIUM ENTERPRISES (SMES). THE CASE OF GREECE

Working capital represents the amount of funds invested in firms' current assets. Optimizing working capital management is a challenge and a necessity for firms especially today due to the demand volatility and limit access to bank credit.

This paper investigates the relationship between working capital management and firms' performance in small and medium enterprises in Greece. The results suggests that an effective working capital management is a necessary component of firm's future growth and profitability.

The analysis used data for a sample of 459 small and medium enterprises for the period from 2008 to 2012. The paper is organized as follows: in the next section we briefly present the problem based on literature review. This is followed by the presentation of research methodology and the data sources used in the analysis. The results are presented and discussed in section three. Last section summarizes the conclusions and presents further opportunities for research.

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Introduction

The company is an economic system, producing products for sale, providing services against payment, and conducting trade. In general, compa-

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nies' finance include all those economic phenomena that are related directly or indirectly to collect and spending of funds for business activities. The profitability of the company as a whole is dependent on a efficient financial management.

Working capital refers to all current assets which means all those assets which can be converted into cash within the short-time period. Working capital has two concepts: gross working capital equals to total current assets and net working capital equals to the excess of current assets over current liabilities. Current assets and current liabilities include three accounts which are of special importance. These accounts include inventories, accounts receivables and accounts payables and represent the areas of the business where managers have the most direct impact (Smith, 1980; Vijay Kumar, 2001; Van Horne and Wachowicz, 2004).

Optimizing working capital management is a challenge and a necessity for firms especially now due to the demand volatility, barriers in access to bank credit (Hyz, 2011), customer payment delays etc. Inefficient working capital management can cause bankruptcy, even if firm's profitability is constantly positive (Kargar and Bluementhal, 1994; Raheman and Nasr, 2007). One of the measure of the efficiency in working capital management is cash conversion cycle, which is the amount of time it takes to turn the accounts receivables and inventories into cash minus the amount of time it takes to pay accounts payables. The longer the cycle is, the longer a business is tying up capital in its working capital earning a return on it. Therefore, companies strive to reduce its cash conversion cycle by minimizing inventories, collecting receivables quicker or sometimes stretching accounts payables. Shortening the cash conversion cycle is the most inexpensive way to grow and to free up cash on one hand and to limit firms' needs for capital market financing.

During the previous years, increasing attention was devoted to effective inventories management. The term „inventory” in manufacturing companies refers to the stockpile of the products a firm is offering for sale and the components that make up the product. The assets which firms store as inventory in anticipation of need are: raw materials, work in progress, finished goods, stores and supplies. The last asset, normally, form a very minor part of total inventory and do not involve significant investment. Excessive inventories are one of the most important problems faced by many companies all over the world. Inventories are engaged primarily funds, usually unproductive freezing high capital of the company. Inventories also cause an increase in costs associated with their maintenance and service. This is especially important today, when the rising cost of operations and increase competition in the

market eliminate companies which are not effective in reduction of costs. In the frame of efficient working capital management the purpose is to identify the level of inventory which allows for uninterrupted production but reduces the investment in raw materials – and minimizes reordering costs – and hence increases cash flow.

Another components of working capital is accounts receivables and accounts payables. In the frame of debtors management the purpose is to identify the appropriate credit policy, i.e. credit terms which will attract customers, such that any impact on cash flows and the cash conversion cycle will be offset by increased revenues and hence return on capital. Accounts payables can be interpreted as the opposite of accounts receivables. Delaying payments to suppliers can be an inexpensive and flexible source of financing for the firm. On the other hand, late payment of invoices can be very costly if the firm is offered a discount for early payment (Deloof, 2003).

Many researchers investigated the impact of management of working capital and/or its components on firm's profitability. Voulgaris et al. (2000) found that the efficiency of inventory management policy is the main factor of the performance of the Greek firms. They used the financial data of Greek SMEs performance on the basis of a financial ratio analysis using a sample of 143 industrial firms for ten years period. Boute et al. (2007) have studied the financial impact of inventories in Belgian manufacturing industry, wholesale and retail. The results of the regression analysis are not very clear. They find negative coefficients relationship between the inventory ratio and financial performance (ROA), but this coefficients is only significant in 29% of the cases studied. Also, the analysis of variance shows that companies with a very high inventory ratio have much more chance to be bad financial performers than companies with a very low inventory ratio. Shah and Shin (2007) analyzed sector level data and showed that inventory performance is positively associated with financial performance. Cannon (2008) focuses on assessing the relationship between inventory performance and overall firm performance. He uses firm's annual percentage change in inventory turnover as a measurement for inventory management and return on assets as a measure of performance. He concludes that turnover improvement an average had a slightly negative effect on ROA. Capkun et.al. (2009) find a significant positive correlation between inventory performance and measures of financial performance for firms in manufacturing industries. Shin and Soenen (1998) who studied the relation between Net Trade Cycle (NTC) and firm's performance for a sample consisting of American manufacturing firms for the period of 1974–1995 found strong negative relation and concluded

that shortening of firm's Net Trade Cycle will increase a shareholders' value. Deloof (2003) found a negative relations between gross operating profit and three parts of the Cash Conversion Cycle (inventories, accounts receivables and accounts payables). His sample consisted of 1009 non-financial Belgium firms for the period 1992-1996. In line with this study is also the research of Garcia-Teruel and Martinez-Solano (2007) which studied Spanish SMEs. The results showed that shortening of firm's number of days accounts receivables and inventories can increase the profitability of the firm. Lazaridis and Trifonidis (2006) which used a sample of 131 companies listed in the Athens Stock Exchange for the period of 2001-2004 found that there is statistical significance between profitability, measured through gross operating profit and the cash conversion cycle. Samiloglu and Demigrunes (2008) analysed a sample consisting of Istanbul Stock Exchange listed manufacturing firms for the period 1998-2007. Empirical findings of the study show that accounts receivables period, inventory period and leverage affect firm profitability negatively, while growth (in sales) affects firm profitability positively.

This paper is an attempt towards understanding the relationship between working capital management and firm's profitability in Greek small and medium enterprises. The reason for the selection of small and medium enterprises was the fact that these companies are the basis of the economies in many countries (Acs and Audretsch, 1990, 1993; Dunlop, 1992; Mulhern, 1995; Hyz, 2006), especially in the Greek economy. We assume that improper management of working capital is one of the reasons behind failures or pure financial performance of many Greek small and medium enterprises. During the period of recession the working capital management get even more importance due to the firm's financial constraints. A comparison of our findings with those from previous research provides important implications for managing companies.

Data Set and Variables

The data we use was extracted from ICAP database, containing detailed financial reports annuals (income statements and annuals balance sheets) and statistics on Greek companies. This results in a find data set of 459 companies split up over 8 sectors of economic activities according to the European NACE classification scheme. The research covers the period of 2008–2012, which gives the five-year period of observation of financial results of selected companies.

The criteria used for selection of the companies are two:

1. European Commission criteria for small and medium enterprises, namely:
 - headcount ≤ 250 ,
 - turnover ≤ 50 million euro,
 - total balance sheet ≤ 43 million euro.
2. Data available for five years continuously. We exclude all firm-year observations without data available on working capital and its components and profitability (sales, cost of goods sold, net income, inventory, accounts receivables, accounts payables, total assets).

Since outlier observations can cause problems we implied standard method of winsorization of the data. For all used variables we replace 5% of the data by the highest value that is not removed.

The cash conversion cycle is used as a comprehensive measure of working capital management, defined as follows:

$$CCC = IT + ART - APT$$

where:

CCC – Cash Conversion Cycle,

IT – Inventory turnover expressed by number of days:

$$\frac{\text{Number of days in analyzed period}}{\text{Inventory turnover ratio}}$$

or

$$\frac{\text{Average Inventories} \cdot \text{Number of days in analyzed period}}{\text{Cost of goods sold}}$$

Inventory turnover ratio is velocity of which total inventories (raw materials, work in process and finished goods) converted into sales. This indicator suggests the ability of company to transform inventories in sales (cash or accounts receivables) in particular period of time. The lower the number of days the better the inventory management.

ART – Accounts Receivables Turnover expressed by number of days:

$$\frac{\text{Number of days in analyzed period}}{\text{Accounts Receivable turnover ratio}}$$

or

$$\frac{\text{Average Accounts Receivable} \cdot \text{Number of days in analyzed period}}{\text{Sales}}$$

Accounts Receivable turnover ratio is velocity of which average accounts receivables converted into cash. This indicator suggests the ability of company to transform accounts receivables into cash in particular period of time. The lower the number of days the better the accounts receivables management. While cash-only sales have a ART of zero.

APT – Accounts Payables Turnover expressed by number of days:

$$\frac{\text{Number of days in analyzed period}}{\text{Accounts Payables turnover ratio}}$$

or

$$\frac{\text{Average Accounts Payables} \cdot \text{Number of days in analyzed period}}{\text{Cost of goods sold}}$$

Accounts Payables Turnover ratio is velocity of which average accounts payables are paid. If this can be maximized, the company holds onto cash longer, maximizing its investment potential. The longer is this measure the better is the accounts payables management. While cash-only purchases have a APT of zero.

To measure financial performance, we prefer to use return on assets (ROA) for reasons of data availability and accuracy.

$$ROA = \frac{\text{Annual Net Income}}{\text{Net Total Assets}}$$

Return of assets is a measure of firm's performance and is a ratio of firm's reported net income divided by net value of its total assets.

We introduce also two other firm specific variables (internal variables): firm's size and sales growth rate.

The cost of investment in working capital is lower for larger firms compared to smaller and they have larger capacity to extend more trade credits that enable them to have more investment in working capital as compared to smaller firms (Berger et al., 2001; Jordan et al. 1998; Peterson and Rajan, 1997). We use natural logarithm of total assets as a proxy for firm size.

The effect of growth opportunities on working capital can be done via trade credit grant or investment in inventories. Anticipation of the future sales growth might cause to increase the amount of investments in inventories (Gill, 2011; Caballero et al., 2009). The sales growth rate is defined as follows: $sales_t / sales_{t-1}$. To avoid having negative values we don't use the formula: $(sales_t - sales_{t-1}) / sales_{t-1}$.

Other researchers used also variables, like „shares and participation to other firms”, „financial debt measure” (Lazaridis and Trifonidis, 2006; Deloff, 2003; Garcia-Teruel and Martinez-Solano, 2007). In the case of Greek SMEs the first ratio is less important and the second one is not used due to lack of sufficient data.

For analysing the financial impact we use a regression analysis using profitability measured through return on assets (ROA) as the dependent variable. We use regression analyses based on the following model:

$$ROA_{j,t} = \alpha + \beta_1 CCC_{j,t} + \beta_2 \ln Assets_{j,t} + \beta_3 SalesGrowth_{j,t} + Fir_k + Year_k + \varepsilon \quad (1)$$

$$ROA_{j,t} = \alpha + \beta_1 IT_{j,t} + \beta_2 \ln Assets_{j,t} + \beta_3 SalesGrowth_{j,t} + Fir_k + Year_k + \varepsilon \quad (2)$$

$$ROA_{j,t} = \alpha + \beta_1 ART_{j,t} + \beta_2 \ln Assets_{j,t} + \beta_3 SalesGrowth_{j,t} + Fir_k + Year_k + \varepsilon \quad (3)$$

$$ROA_{j,t} = \alpha + \beta_1 APT_{j,t} + \beta_2 \ln Assets_{j,t} + \beta_3 SalesGrowth_{j,t} + Fir_k + Year_k + \varepsilon \quad (4)$$

Here j is representing the firm and t is the time, α is the regression constant, β_1 , β_2 , β_3 are the coefficients of $CCC_{j,t}$, $\ln Assets_{j,t}$, $SalesGrowth_{j,t}$ respectively. $ROA_{j,t}$ is return on assets as a measurement for financial performance of firm j at year t , $CCC_{j,t}$ is cash conversion cycle, $IT_{j,t}$ is inventory turnover in days, $ART_{j,t}$ is accounts receivables turnover in days, $APT_{j,t}$ is accounts payables in days, $\ln Assets_{j,t}$ is the natural log of firm's total asset, $SalesGrowth_{j,t}$ is firm's sales growth. Since ROA can be correlated with factors that are omitted in our dataset, we minimize their effects by using firm-specific control variables and time-specific effects. These control variables can be modelled either as fixed effects or as random effects. To test whether fixed effects are present we employ a Hausman test (Baltagi, et al., 2003). Fir_k denotes the firm-specific effects, which are unobservable effects, constant over time but varying across firms, e.g. differences in accounting policy, managerial efficiency and $Year_k$ is year-specific fixed effect for year k , which are unobservable effects constant across firms but varying over time, e.g. interest rates, ε indicate the error term for the observations of firm j in the year t .

Results and discussion

Table 1 presents brief overview of the descriptive statistics of the relevant variables of the empirical findings.

In the analysis we focus more on the medians rather than mean due to the fact that means are often influenced by the phenomena of „windows dressing”. In other words accounting data are influenced by the tendency of accountants to try to help their clients have a good image. The median of cash conversion cycle for 2.295 observations was 122.28 days (mean was

183.19 days). The median of total inventory holdings periods were 88.37 days (mean was 159.35 days). Surveyed SMEs receive payment on sales after 104.23 days (mean was 114.78) and paid their creditors in 71.12 days (mean was 88.64 days). High levels of total inventory holdings may be due to the recession in the Greek economy, which did not allow firms to absorb inventories. The situation of Greek economy may also explain the long accounts receivables and payables period. Our financial performance measure show median value of ROA 4.3% (mean was 5.4%). In the period analyzed (2008-2012) surveyed SMEs sales declined by 0.9% annually on average (-0.2% median). Although we have no data from Greek SMEs from the period before 2008 we can compare above results with those from other studies. We can see that the ratios for Greek SMEs are on the very high level. Taking into account the overall macroeconomic situation of Greece (for more see: Gikas, et al., 2012; Gikas, et al., 2013) this is not consistent with Lamberson (1995) who did argue that the level of working capital would increase during economic boom and decrease during economic slump.

Table 1. Descriptive Statistics

| <i>Variable</i> | <i>Observations</i> | <i>Mean</i> | <i>StDev</i> | <i>Median</i> | <i>Minimum</i> | <i>Maximum</i> |
|---------------------|---------------------|-------------|--------------|---------------|----------------|----------------|
| <i>CCC</i> | 2295 | 183.19 | 198.04 | 122.28 | -1056.23 | 1386.00 |
| <i>IT</i> | 2295 | 159.35 | 146.78 | 88.37 | 0.00 | 798.69 |
| <i>ART</i> | 2295 | 114.78 | 107.68 | 104.23 | 1.00 | 575.28 |
| <i>APT</i> | 2295 | 88.64 | 110.54 | 71.12 | 0.00 | 567.62 |
| <i>ROA</i> | 2295 | 0.054 | 0.067 | 0.043 | -0.67 | 0.265 |
| <i>SALES GROWTH</i> | 2295 | -0.009 | 0.231 | -0.002 | -0.471 | 0.274 |

Note: Variables are defined at the section 2: Data Set and Variables.

Table 2 reports the Pearson's correlation matrix for main independent and dependent variables.

According to the results the return on assets (ROA) is negatively correlated with cash convertible cycle (CCC) and all its components (Inventory turnover in days (IT), Accounts receivables turnover in days (ART) and Accounts payables turnover in days (APT)). In all cases the correlation is significant.

It means that the shorter the cash conversion cycle is, the higher the profitability. Also minimizing inventories, collecting account receivables quicker and stretching accounts payable could facilitate a higher profitability. The results of correlation analysis show also significant positive relation between the control variables and the dependent variable.

Table 2. Correlation matrix for analyzed variables, 2295 firm-year observations

| | CCC | IT | ART | APT | ROA | LNASSETS | SALES GROWTH |
|--------------|----------|----------|---------|---------|---------|----------|--------------|
| CCC | 1 | | | | | | |
| IT | .756*** | 1 | | | | | |
| ART | .560*** | .184** | 1 | | | | |
| APT | -.324*** | .121** | .284** | 1 | | | |
| ROA | -.112** | -.133*** | -.077** | -.065** | 1 | | |
| LNASSETS | .035** | .117** | .219** | .138** | .003** | 1 | |
| SALES GROWTH | .079** | -.046** | -.058** | -.034** | .073*** | .009** | 1 |

Note: Variables are defined at the section 2 „Data Set and Variables”; t-Statistic (*p-value<0.1;**p-value<0.05;*** p-value<0.01)

Table 3 reports the results of regression analyses for the specification given by equation 1–4 which we used to investigate the impact of working capital management on the profitability of SMEs in Greece. The result of Hausman test implies that the fixed effect estimation is preferable than random effect estimation.

The coefficient of cash conversion cycle variable is negative and statistically significant at least at 5 per cent level of significance, which means that as cash conversion cycle decreasing the firm's profitability increasing. This result is consistent with the results found by Lazaridis and Tryfonidis (2006) and Garcia-Teruel and Martinez-Solano (2007). Although the relationship found by Deloof (2003) is also negative this result is not statistically significant.

In the case of inventory days we found negative and significant relationship. This result is consistent with the results found by Deloof (2003) and Garcia-Teruel and Martinez-Solano (2007). Although the relationship found by Lazaridis and Tryfonidis (2006) is also negative this result is not statistically significant.

There is negative and highly significant relationship between accounts receivables and profitability. This indicates that firms can create profit by keeping the levels of their accounts receivables to a minimum.

Table 3. Regression Analysis of Determinants of Working Capital Management

| Independent Variables | Dependent Variable: ROA | | | |
|------------------------|-------------------------|---------------------|----------------------|---------------------|
| | (1) | (2) | (3) | (4) |
| <i>CCC</i> | -.0034** (-5.45) | - | - | - |
| <i>IT</i> | - | -.0008** (-2.33) | - | - |
| <i>ART</i> | - | - | -.0025*** (-6.56) | - |
| <i>APT</i> | - | - | - | -.0012** (-6.34) |
| <i>LNASSETS</i> | .0054** (6.98) | .0061** (7.54) | 0.033** (7.32) | 0.436** (7.11) |
| <i>SALESGROWTH</i> | .0241** (16.05) | .0236** (16.56) | .0250** (17.01) | .0246** (16.78) |
| <i>Firms Controls</i> | Included | Included | Included | Included |
| <i>Year Controls</i> | Included | Included | Included | Included |
| <i>Adjusted R2</i> | 0.69 | 0.71 | 0.74 | 0.70 |
| <i>Wu-Hausman Test</i> | 0.00 | 0.00 | 0.00 | 0.00 |

Note: Variables are defined at the section 2 „Data Set and Variables”; t-Statistic (* p-value<0.1, ** p-value<0.05, *** p-value<0.01). Coefficient estimates are in each cell, and t-values are in parentheses.

According to the results if firm decided to give more trade credit, which means increase of the average days of accounts receivables, the profitability of this firm will decrease by 0.25% annually. On the other side, the decrease of the average days of accounts receivables will cause ROA's increase by 0.25%. This strong and negative effect of accounts receivables on the firm's profitability may be probably explain by the very high level of Accounts receivables turnover (in days) comparing to other countries, the overall macro-economic situation in Greece in this period of time and the fact that firms act as lenders to their customers saving in this way the part of their sales. The obtained result is consistent with prior studies: Deloof (2003), Lazaridis and Tryfonidis (2006) and Garcia-Teruel and Martinez-Solano (2007).

We observed negative and significant relationship between return on assets and accounts payables. A negative relation is also found by Lazaridis and Tryfonidis (2006) and Garcia-Teruel and Martinez-Solano (2007). In Greece SMEs due to financial constrains have no easy access to the credits (Hyz, 2011). One of the solution for them is to use accounts payables as a short-term source of financing.

Based on these results we can conclude that ROA is more sensitive to the changes in accounts receivables. In this case, one approach is to change firm's credit policy or change the structure of customers. But, due to the limit demand in Greece consumers may prefer to shop elsewhere and sales volume can decrease. Sales reduction leads to poor cash inflows. As a result, the firm cannot take advantage of economies of scope and scale and thus, decreasing working capital efficiency even further.

The others variables that have significant effects on firm profitability are Sales Growth and Firms size (measured through the natural logarithm of assets), affecting it positively. This means that any increase in size or sales leads profits to grow. The positive relationship between firm size and working capital management implies that larger firms have longer cash conversion cycle. The positive relationship between firms growth and ROA implies that the anticipation of the future sales growth causes increase of investments in inventories. Moreover, increasing sales via expanding trade credit to the customers make it necessary to have more investment in working capital (Petersen and Rajan, 1997).

Conclusion

The study is an attempt to investigate the relationship between the working capital management of small and medium enterprises in Greece and its profitability. Working capital management means managing it and its components efficiently and effectively for ensuring firm's growth and profitability. The ICAP database has been used for collecting the financial data of SMEs sample for five years from 2008 to 2012. Proper working capital management will improve the management efficiency, which translates into profit growth. It may be obtain by 1 increase reliability of business processes in the company guaranteed by a reasonable level and structure of working capital components 2 increasing the speed of movement of backup, which leads to the liberation of funds (capital) involved in working capital components 3 lowering costs by reducing working capital components level.

After the comparison of results with other studies we can see that, due to very high ratios of working capital management in Greek small and medium enterprises, there is a big margin of profitability's improvement. At the optimal level of working capital firms can establish desired trade-off between liquidity and profitability and as a result firm's value (Hill et al., 2010; Smith, 1980; Nasr, 2007). This trade-off is a balance between risk and return.

Determining the important factors affecting working capital management would make managers able to manage working capital efficiently and effectively. In every case there is a need of individual attempt to the problem: first of all, the managers should to understand the necessity of working capital control, next they have to understand working capital influence on the profitability and finally they have to find the optimum level of working capital components according to the internal and external firm's environment with the main criterion firm's survival via growth.

Future studies may include comparison with other countries during the crisis (and before or after the crisis) and provide greater insight in the task of explaining the relationship between working capital management and profitability. Another one, exciting challenge for future research is to include cross sectional analysis. Finally, a research agenda of mixed methods would be useful.

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Luigi Lai¹

EVOLUTION OF THE SHARE CAPITAL FUNCTION, AS A TOOL FOR OVERCOMING ECONOMIC TURMOIL

The paper aims at showing that a lower share capital in limited liability companies can be a successful tool for overcoming the consequences of an economic crisis. In a period of economic turmoil insolvency is more than a simple risk. For such a reason the limited liability company shareholders, thanks to the complete financial autonomy given by the share capital, have a shield from the legitimate expectations of the creditors. The share capital protects the entrepreneur and at the same time allows faster fresh starts; nevertheless, in order for that to happen, the share capital cannot be an additional burden, instead has to be a simple formal element.

The article demonstrates that in the last 50 years is visible a shift in the concept and function of the share capital. During the 50's of the past century, the share capital was considered as a guarantee for the company's creditors. Nowadays the European legislators across Europe are heading to consider the share capital as a mere formal element disconnected by any due quantity

JEL Classification Codes: K20, F23.

Keywords: Share capital, European Union, International law, Insolvency.

Introduction

This article focuses on showing the reader, how the share capital has different functions and how a common approach in Europe is the utmost needed, this common approach in the idea of the author should go in the direction of considering the share capital as a formal element which allows

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a perfect independence of the company from the shareholders patrimony. For too many years the share capital has been set in an amount of money quite high; and at the same time the general costs to open a limited liability company were too relevant as well. All the above mentioned drastically discouraged the entrepreneurs to use the limited liability company instrument. Nowadays in Europe governments are going in the direction of lowering such amount of money needed for opening a limited liability company; nevertheless, in the continental civil law countries, the path to lower the share capital level is still faraway. In this article I have taken into consideration the main Italian theories on the function of the share capital, those theories are almost identical to the major theories popular in the majority of countries in continental Europe (Miola, 2005). In this article I show how the Italian legislator is, step by step, abandoning the dogma of a quantitative strong share capital, and it is heading to a share capital considered as a quantitative formality. A formality in the true meaning of the Latin word form, a shape still needed, but just a shape, deprived of any quantitative value. The next step of a future research would be to compare the US System with the EU System, moreover, the article will answer the long-standing question: is still the share capital needed, or is a hoary element that should finally disappear.

Limited liability companies are the back-bone of modern economic systems. If a century ago personal partnerships were the development trigger, nowadays due to the common law influence, personal partnerships are biting the dust. The ratio under this escalation is quite clear, giving the entrepreneur the second chance; in the case of financial distress, the company will be insolvent, but not the shareholder who instead will be protected by the shield of the share capital. Generally, in continental Europe, the share capital was considered as a guaranty to the company creditors. For the reason, the share capital often was a considerable amount of money, which for antonomasia had to be fixed and untouchable by the company so to represent the guaranty, the „treasure” on which a creditor could rely as *extrema ratio* in the case of company default. Nowadays the share capital has an informative function of declaring the separation between the company capital and the shareholders capital. Nevertheless, previously the share-capital had different functions. The article focus is to show the function of the share capital, and how its function changed during the time.

Ancient theory of the share capital

Any business idea to be able to grow and develop also needs financial resources, the share capital has always been recognized as one of the basic factors of production, even before the economic and legal sciences. The share capital is the sum of the shareholders contributions and at the beginning of the company will be equal to the entire amount of the company's assets; nevertheless, later on, these values are no longer the same because the assets will vary according to the performance of the company, while the share capital will always stay the same.

This consideration leads us to analyse the relationships between share capital and company's assets, the company's assets is the set of assets and liabilities that belong to the company; conceptually no different from the assets of a natural person; the difference with the share capital is that the title holder of the assets is the company and not an individual. In such a sense there is a perfect distinction between the company and the shareholders, the company has the so-called financial autonomy; shareholders may lose their shares but in the case of company insolvency they will not get involved. In the first half of the twentieth century, it was prevalent in the doctrine the idea that share capital carried out a function of guaranty in favor of creditors, an illustrious Italian author (Brunetti, 1948) starting from the thought that the use of the company's assets in an economic activity is an essential moment in the framework of the company agreement. The author made descend the idea that the essential characteristic of the contribution of each partner should be productivity. The reasoning then continued with the consideration that the productivity function was, however, carried out by the company assets intended as a whole. A distinctive feature of the share capital would be instead to guarantee the company's creditors, fact justified by the need to balance the effects of the limited liability of the shareholders.

On this basis, it was, therefore, supported the indispensability of the share capital. The capital became, in this perspective, the only way for a company to get credit: since creditors may find satisfaction to eventual claims only on the company's assets, they could calibrate their funding decisions based on the consistency of assurance that they are offered in the form of share capital. This perspective has been the subject of criticism, due to the fact that the guarantee function is carried out, in fact, by the entire company assets and not only by the share capital. Moreover, the share capital provides a brief description of the company's financial of the company situation but is not the direct subject of the guaranty of the creditors, who rather rely on

earnings forecasts offered by the company and its dynamic situation. It may occur that a company in condition of economic distress has, however, an untouched share capital, in such a sense the guaranty of the share capital is „uncertain, if not illusory”; if the system wanted truly to guarantee the creditors, it should have set restrictions on corporate assets, restrictions, but this restriction if applied, would create the collateral effect to „throw the share company in the most absurd immobility”. For the reasons mentioned above, the idea of share capital with a guarantee function has almost been abandoned (Montagnani, 1991).

Productivity function theory

During the 60's of the past century, some scholars affirmed that the share capital had a productivity function and, only indirectly, a guarantee function for the company creditors (Ambriani, 2012). The share capital, under this theory, allows to achieve and maintain the economic-financial balance of the company and it constitutes the only real „guaranty” of corporate debts. The share capital is, therefore, the „financial skeleton” of the enterprise because it is a financial rule that „binds a the share capital”.

The productive purposes of the share capital are expressed in fact not only at the time the company is formed, where the financial structure was starting but also during the company activity. The guaranty provided by the share capital, This not so radically denied but rather understood in a different way. The guarantee, in fact, is not interpreted in a static sense, ie as directly linked to property forming part of the company's assets, but rather in a dynamic sense. The capital, in other words, does not protect the right of creditors directly but allows that there is still sufficient earnings power by maintaining an appropriate financial structure. This theory has some critical issues, moved mainly by authors who prefer the „nominalistic” conception of the share capital. The productivity approach has also given rise to sub-theories relating to the under capitalization, according to which the amount of the share capital must be appropriate to the company activity. The share capital has an additional function of „budget constraint”; in fact, it is not possible to lower the share capital level under a certain quantity, and it represents sort of bind for the company.

Nominal function

The shareholder's participation in the company can be expressed as fractions of capital, the capital itself assumes the role of measurement of the rights and powers which the shareholders have, thereby regulating the conduct of the life of the company as an independent and self-living organization. Even more radically, it is possible to affirm that the presence of the share capital is essential to identify the company organization (Denozza, 2002). This organizational function is based on the nominal capital, not real: in fact, regardless of the qualitative composition of the Company's assets. The organizational function of the capital can be summarized by saying that it serves as a measure to distribute profits among the shareholders. The capital, therefore, is a „pure number” means an accounting entry that expresses quantitatively, a balance of powers in the company, a set of rules that control the powers and ways to have a certain amount of assets always instrumental to the production of wealth.

Informative function

An important aspect of the share capital is the informative function. The share capital is a signal in case of insolvency when it is possible to notice an excessive imbalance in liabilities and assets. The capital, signaling the approaching insolvency, would act as a „financial safety net” allowing, at least in theory, to prevent it. In other words, the preventive and informative functions are carried out by the nominal capital itself, and by the rules concerning the company assets, allowing the maintaining of an economic and financial stability (Ferrara, 2011).

It is visible the link between the production-function and the information function, which underlines two different aspects of the share capital. The nominal capital is, essentially, what appears on the outside: in fact a nomen, a pure and simple information. This representation consists of a simple number, almost a symbol which is easily comprehensible from the outside of the company. In this light, it is crucial that there are appropriate mechanisms to ensure the representativeness of the capital as information. The share capital, therefore, allows creditors to get an idea about the risk of their investment level, it is indicative of the seriousness of the economic initiative put in place by the shareholders, as it ensures that the contributions are effective, and It summarizes their level of financial commitment. It is also true, however, that lenders are more interested in the company balance sheet, and in

the dynamics of management. The capital on its own is not able to give this information, or at least is not able to give a sufficient level of details on that.

The informative function finds its general foundation in the provisions under which the companies must indicate the amount of capital (In Italy Article. 2250 of the Italian Civil Code). This provides to third parties, ie at current and potential creditors and, more generally, to the entire market, a summary information regarding the minimum size of the company's assets. Some authors emphasize that the informative value of the share capital reveal that this information is also an expression of an equal treatment of shareholders because the information on the share-capital status protects them from a mis administration of the company board. The share capital allows lenders to understand the real level of risk related to their investment because it is possible to approximatively guess the „seriousness” of the commitment.

Nevertheless, the share capital alone does not provide adequate information on the company real economic situation. First, it summarizes the situation in a single number, then, does not disclose the qualitative composition of assets and liabilities that are part of the company's assets.

It should also be kept in mind the possible time discrepancy: the nominal capital, in fact, may be different from the real economic situation of the company. Shareholders normally have an amount of time (usually until the end of financial year) for the adoption of measures deemed appropriate to re-set the bidding level of share capital. In this period, therefore the share capital, it expresses a nominal information that does not correspond to reality.

It seems reasonable to assume that the legislator wanted to enhance the informative function and was not extremely concerned of a possible discrepancy between the reality represented by the capital itself and the reality of the budget itself. In other words, share capital alone does not provide enough information on the true economic situation of the company.

Normative approach – Shareholders considered as different sort of company's creditors

Some authors recognize in the share capital a regulatory function, which is declined in various shades, and it stresses the importance of the nominal capital. The so-called typological function is expressed in the distinction, within the shareholders, and the creditors. This theory emphasizes a sort of connection between the shareholders and the creditors of the company because what characterizes the shareholder, what confers that status, is the

ownership of the shares if the share capital. There are authors who believe that the norms which discipline the share capital cannot be interpreted in terms of relationships between shareholders and creditors (Guidotti, Pederzini, 2011). More generally, it denies that the share capital can be seen as part of the contract between the company and its shareholders.

In the opinion of the mentioned authors, it is not true that shareholders have real credit rights against the company. The shareholders indeed have a right to receive back what they have in their time given; However, this right is subject, to a „priority given to the company creditors”(Miola, 2012). Therefore, from a point of „objective” view, share capital is used to determine the amount of wealth on which the shareholders can rely. It has been said that the right of shareholders to have their investments back is subject to conditions The uncertainty of the return, the possibility of complete loss of the amount transferred, are therefore fundamental characteristics. The share capital would, therefore, have a typological function: it constitutes the formal and essential prerequisite of the exercise of economic activities through the corporate form. Without share capital, we could not speak of the company. The share capital also has a regulatory function. According to a part of doctrine, the share capital expresses a need to be, in both quantitative, both qualitatively, because it is a „programmatic element” of the company contract since it is designed to address all the economic activities of the company and to ensure that is carried out correctly. The share capital has a role of protection and development of company activities. Hence it is natural to conclude that the shareholders and the creditors and other third parties the rely on the share capital, and has to be noted that in this setting, what the capital is used for is to check the adequacy of the business program, not its actual implementation (Bartolacelli 2013).

Share capital importance

The discipline of the law regarding the share capital is a compromise discipline in the positive sense of the term, it has been created a difficult balance between conflicting interests and more generally, between a free-market vision and a more state driven vision. This choice is prevalent in continental Europe law systems and it is strongly rooted in the Italian corporate law (Ewang, 2007). However, the function of the share capital is not a set of immutable principles of corporate law; it is instead the logical order to be reversed. It is not possible to pretend to solve all the problems affecting the

share capital, with an arbitrarily determination on the function of the share capital, because it is the legal system (i.e. the political side) who determines what is the share capital, and what are the share capital characteristics (Ferri jr, 2013). It is possible to recognize, in the share capital, liberal roots, since the definition of the share capital balances the principle of liability of the shareholders, allowing to outsource part of the risk of the entrepreneurial activity. A common feature of most schools of thought is represented by the link between the capital and the company's creditors. Most of the legal doctrine in fact, while denying the guaranty function of the capital, has brought the underline a connection between the company and its creditors. This perspective is shared by the Italian and EU legislator since the provisions governing the share capital were originally intended just to protect creditors (Ginevra, 2007).

In general, the share capital is advantageous for creditors of the company since it makes sure that it is kept a patrimonial active, thus ensuring a greater likelihood that the company is going to be solvable. Along with the share capital, reserves also play this role and have often been identified as a „cushion” to defend the real share capital, as an additional safety margin. Therefore, the reserves are an important creditor protection tool, under both aspects, static and dynamic.

The share capital also offers important benefits to the shareholders, and not only to creditors, since it provides the knowledge of a sort short description of the company's balance sheet, (i.e. through its informative function). Without disregarding the important informative value interpreted by the share capital, it is more significant for the company creditors, to know not only the value of the share capital on a certain date but also its evolution over time, so you can take advantage of any positive or negative trends and adjust their investment decisions to them. Those creditors, therefore, have an interest in the set of rules for the establishment, maintenance and the distribution of the shares of the share capital; an error of perspective would be the identification of the conflicting parties, the creditors. As noted above, it would be incorrect to say that the shareholders do not hold any claims against the company. They have precisely the right to see their investment returned, as creditors of the company, but this refund is subject to the prior satisfaction of creditors. The distribution of any profit to the shareholders is linked to the fact that there is an excess of active enough to cover the actual liabilities and capital.

This theory above mentioned might not radically deny the conflict between shareholders and creditors. In addition, company's actions are not always independent from the will of its shareholders, especially in the case of the

share structures in the narrow base; Also administrators, then, are certainly not always immune from the influence of the shareholders. Therefore, if there was a misalignment of interests between companies, or administrators, and creditors, it could often rely on a divergence between the creditors and the shareholders. Finally, even the fact that creditors and shareholders are to some extent similar (they both finance the company), albeit clearly with differences. We can, therefore, question the effectiveness and efficiency of comparing the share capital with other creditor protection techniques with regard to their convenience, and the possibility to use multiple methods to protect the creditors and the share capital. This leads to consider the efficiency profile of the share capital: in his absence, the „strong” creditors should impose on the company measures to protect their credits. The share capital, protecting creditors, eliminates or at least greatly reduces the number of such transaction costs and also protects the most vulnerable creditors.

This brings us back to the first question of this article, is share capital still needed, or is it just a shadow of the past? In the opinion of the writer, the share capital has the main task of separating the personal assets of the entrepreneur and the company assets. This independence, that the share company has, is the corner stone of the modern economic activities, sort of insurance for the entrepreneur who may rely on that in the case of insolvency, his/her personal assets will not be taken apart and involved in the insolvency procedure of the company. Every entrepreneur has the right to fail and to start again from the beginning. This is very clear in the US system, which has been a leading country in the separation of assets between the company and the entrepreneur. Moreover, the US have been the first state to drastically reduce the share capital obligation, showing the path, that the share capital has to be an important element of a company, but that at the same time, the share capital has to be no more than a formal element. The US system does not consider the share capital as a tool for protecting creditors, it is considered just as an element which allows the assets separation.

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Renata Małkowska¹

PUBLIC FINANCE SECTORS CENTRAL AND EASTERN EUROPEAN COUNTRIES AND IN DEVELOPED COUNTRIES

This paper analyses the interdependencies between state debt and the volume of the public sector's expenditure, focusing particularly on pro-social spending. These phenomena have been studied in relative values (versus GDP) and in absolute values (per capita). This served as the grounds for an attempt to identify general directions of the public finance policies followed by countries in the Central and Eastern Europe and in selected highly developed countries.

JEL Classification Codes: H5, H6.

Keywords: deficit, public expenditure, public sector, types of capitalism.

Introduction

The purpose of this paper is to identify interdependencies between the model of a state and the volume and structure of the public sector expenditure. The economic crisis which started with the financial crisis in 2007–2008 made it necessary to curb public spending, which, however, encountered growing resistance of extensive social groups in individual states. Additionally, historically motivated experiences of the anti-crisis and anti-cyclical policies were pointed at as, to a major extent, they involved increasing the public spending. To put it simply, it comes down to a dichotomous division into demand and supply methods of supporting social and economic

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development. It, thus, becomes very important to observe actual processes taking place in this context in highly developed countries as this observation embodies a certain compromise between strengthening the state budget discipline and the requested public sector's involvement in counteracting crisis phenomena (Osiński, 2012; Kowalik, 2005). Observation of the dynamics of the budget deficit, the public debt, the volume and the structure of the public expenditure, when pursuing anti-crisis policies in individual countries, is of primary importance in terms of cognition and application. In particular, such an analysis may contribute to finding out whether CEE countries reveal similarities to highly developed states or whether they search for their own solutions to these issues. The first section of this paper comprises theoretical considerations, which serve as grounds for grouping the countries according to the criteria of development levels and the public sector's share in social and economic life. The second section of this paper analyses data related to highly developed countries and CEE states. This analysis covers the period starting from 2007, referred to as 2007+. It is common knowledge that international comparisons directly depend on statistical systems following various rules in different states. Standardisation attempts have been made, for instance, by the OECD and EU. The set of data for OECD countries which the author is focusing on contains numerous gaps. Depending on the measures, information for various countries is available in incomplete time sequences and some of it, for some countries, is missing. This results from the differences in classification of even the basic economic categories. Thus, the analysis covers selected years of the 2007–2013 period, debt measures and public expenditure volumes for Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Greece, Spain, the Netherlands, Ireland, Japan, Luxembourg, Latvia, Germany, Norway, Poland, Portugal, Slovakia, Slovenia, Switzerland, Sweden, USA, Hungary, the United Kingdom and Italy².

Contemporary Public Sector in Various System Models

Attempts to resolve problems which are consequences, among others, of large economic discrepancies between countries, aging societies, migrations, growing unemployment rates consume great volumes of public funds, which then contributes to the growing public debt. Hence the continuous search for

² For Lithuania, Romania and Bulgaria – there is no information available comparable with the rest of the analysed countries, and therefore, they have not been taken into account in this paper.

an optimal relation between active and liberal economic policies that would allow reaching stable, long-term economic development and at the same time, satisfy the needs of the part of society which for various reasons is not able to prosper in a market economy environment (Buchanan, Musgrave, 2005). The European Union member countries most often implement the welfare state model.

The importance of public finance to the economy is growing along with the growing activity of the state when interfering with the market economy. One may offer three groups of countries as examples here. The extreme form was employed by countries of the real socialism while the other extreme was represented by South American countries, where the role of the state was constrained as much as possible leading to significant social stratification. Japan, which applied a balanced model of cooperation between the state and „the invisible hand of the market”, is an example of a country where the free market is supported by state actions.

According to representatives of theories referring to A. Smith, execution of both these functions by the state contributes to greater destabilisation of the economy, which impairs effective use of available resources. The tinderbox is what the supporters of both directions regard as economically and socially rational distribution of income (Zalewski, 2007, p. 11).

Changing external conditions force the evolution of economic and social systems. Individual states undergo transformation processes, including those in Central and Eastern Europe. Still none of them has an ideal solution that would meet all the people's expectations about the role of state in the social and economic life, meaning a solution that would make the state interfere with the market mechanisms the least and, at the same time, fully protect the weakest members of the society – „distributive justice” (Leon XIII, 1892, pp. 121–123). The model most frequently present in highly developed countries is the social market economy, where attribution of the top priority to free market does not eliminate, but still limits the welfare role of the state.

Most generally, one may conclude that the basic problem in the functioning of contemporary societies, particularly the highly developed ones, is the failure to balance broadly defined income and expenditure of the public finance sector. The spending of this sector results from the necessity to finance two groups of needs, which in specific situations are found justified, namely: securing the state's functioning in four basic areas and supporting as well as correcting social-economic processes, which make up the essence of the social and economic life in a given country (Malinowska, Misiąg, 2007, pp. 14–19). The extent to which the needs in both these spheres are satis-

fied may be – and in practice, is – very diverse, depending on the adopted and socially accepted model of the state. Differences are so significant here that they are the starting point for creating separate typologies of countries within the capitalist system. The grounds are always certain features of functioning of the systems being analysed – ones that are regarded as the most important in terms of their influence on the course of social-economic processes. One may notice that, to a great extent, regardless of the detailed constructions of the catalogue of the basic criteria for classifying the forms of the capitalist system observed in practice, analysts – in general terms – obtain similar results of their studies. They reveal domination of: the liberal model in Anglo-Saxon countries, the interventionist model in North, Central and Eastern Europe, the intermediate model in Mediterranean countries and another type of custom models in Asian and South American countries. In the literature one may find (Gładys-Jakóbk, 2012, pp. 45–52):

- Comparisons based on observations of the range of state interventions in five spheres: industrial manufacture, education, including learning an occupation, corporate governance, relations between businesses and relations between employees. Categorisation of states carried out on this basis leads to the location of the analysed system between two extreme models: the market economy based on coordination and the liberal economy. As a result the Authors point to the following groups: four countries with liberal economies (USA, the United Kingdom, Australia, Canada, New Zealand, Ireland), ten countries with a high level of coordination processes (Germany, Japan, Switzerland, the Netherlands, Belgium, Sweden, Norway, Denmark, Finland, Austria) and six states of the Mediterranean model (France, Italy, Spain, Portugal, Greece, Turkey) (Hall, Soskice, 2001).
- Comparisons based on the analysis of 5 areas: the product–market competition, the wage-labour nexus and labour-market institutions, the financial intermediation sector and corporate governance, the range of social protection and the welfare state, the functioning of the education sector. Application of these criteria results in identification of five state models of contemporary capitalism: market-based model (the United Kingdom, USA, Australia, New Zealand, Ireland), social-democratic model (Sweden, Norway, Denmark), the Continental European model (France, Germany, the Netherlands, Austria), the Mediterranean model (Italy, Spain, Greece), the Asian model (Japan, South Korea) (Amable, 2009, p. 17).
- Comparisons taking into consideration the main non-economic, cultural features, including: everyday life, the role of gainful employment, perception of groups with capital, employee management, the negotiation man-

ner, were the grounds for defining conditions for the functioning of the social-economic development component, regarded as the most important, that is the innovative company (Hamptden-Turner, Trompenaars, 1998, p. 15). Systems which differ but still constitute models of social and economic development are those in the following seven countries: the United States, the United Kingdom, Sweden, France, Japan, the Netherlands, and Germany.

It is worth pointing out that the CEE countries cannot be easily classified into any of the abovementioned groups. One of the reasons is the diversity of the post-socialist states, both in terms of economy, institutions, cultures, pursued social policies etc. (Myant, Drahoukoupil, 2011, pp. 301–302). Making homogenous assumptions for this part of Europe by definition impairs the quality of the results, independent of the applied taxonomies (Maszczyk, 2015, pp. 116–117). Additionally, it is hard to classify countries which are continuously undergoing reforms (significant from the perspective of criterion selection). Although the first stage of the transformation has been completed, the post-socialist states are still evolving and are searching for their own paths of development. Perhaps, thanks to their integration with the EU, this may be the model somehow similar to one (or several ones) already present in the Union (Rapacki, Próchniak, 2010, p. 525).

It is worth adding that the studies carried out in this area demonstrate that the majority of the CEE states are going towards the Mediterranean model, with the exception of Estonia, which is classified into the group of states with the Anglo-Saxon model of capitalism (Zielenkiewicz, 2013, p. 386).

Public Sector after 2007 Crisis in Highly Developed and CEE Countries

When analysing the size of the public sectors in 2007-2013 in selected highly developed countries and in CEE states, 18 measures were taken into consideration (Moździerz, 2009, p. 97; Ebbinghaus, 2012), including:

- measures showing the relative value of the public debt and deficit,
- the fiscalisation ratio understood as the value of income of the central and local government institutions' sector as % of GDP and the socialisation ratio understood as the value of spending of central and local government institutions' sector to GDP,

- the structure of expenditure of the central and local government institutions according to functions (% of total)³,
- the structure of expenditure of the central and local government institutions' sector split by expenditures of the central government, local governments and social security sectors.

The ratio of the budget deficit or surplus and, in some way, the derivative of these values in the long run, i.e. the value of the public debt calculated as the portion of GDP are the basic measures of evaluation of the public finance sector.

In 2007–2013, out of 26 examined countries, budget deficit in the central and local government institutions' sector was present: in 2007 in 14 countries, in 2008 in 18 countries, in 2009 in 24 countries. In 2010–2013 the deficit was present in 22 countries (during that period budget surplus was continuously reported in Norway and Switzerland only, while Estonia, Sweden, Luxembourg and Germany occasionally appeared in this group).

In 2007 budget surplus was reported in 12 countries – the highest surplus was found in Norway (17.1% of GDP), Finland (5.1% of GDP) and Denmark (5.0% of GDP). In 2007 the highest state budget deficit was observed in: Greece (-6.8% of GDP), Hungary (-5.1% of GDP), the USA (-3.6% of GDP), Portugal and the United Kingdom (-3.0% of GDP). In 2013 state budget surplus was generated only in 4 countries: Norway (11.3% of GDP), Luxembourg (0.9% of GDP), Germany (0.2% of GDP), Switzerland (0.1% of GDP), while the highest deficit was in 2013 present in: Slovenia (-14.6% of GDP), Greece (-12.3% of GDP), Japan (-8.5% of GDP), Spain (-6.8% of GDP), Ireland (-5.8% of GDP), the United Kingdom (-5.7% of GDP) and the USA (-5.6% of GDP).

In 2007–2009 the number of countries generating budget deficit grew up and the deficit levels among the countries with the top deficit values increased. This seems to be related not only to Wagner's law of continuously growing state spending but also a consequence of the global financial crisis (Łaski, 2011, p. 11; Ziółkowska, 2015, pp. 589–592). Aid programs of various nature, although they are to contribute to the stabilisation of financial systems, cause the deficits to grow. Loans taken are largely allocated to handle the current debt and increase indebtedness in the future. Only „healthy economies” may spend funds acquired in this manner on pro-development projects and overcoming the recession. Weaker economies, which use this

³Ten ratios demonstrating the structure of expenditure of the central and local government institutions classified according to COFOG – Statystyka sektora instytucji rządowych i samorządowych, GUS, Warszawa 2010, pp. 198–200.

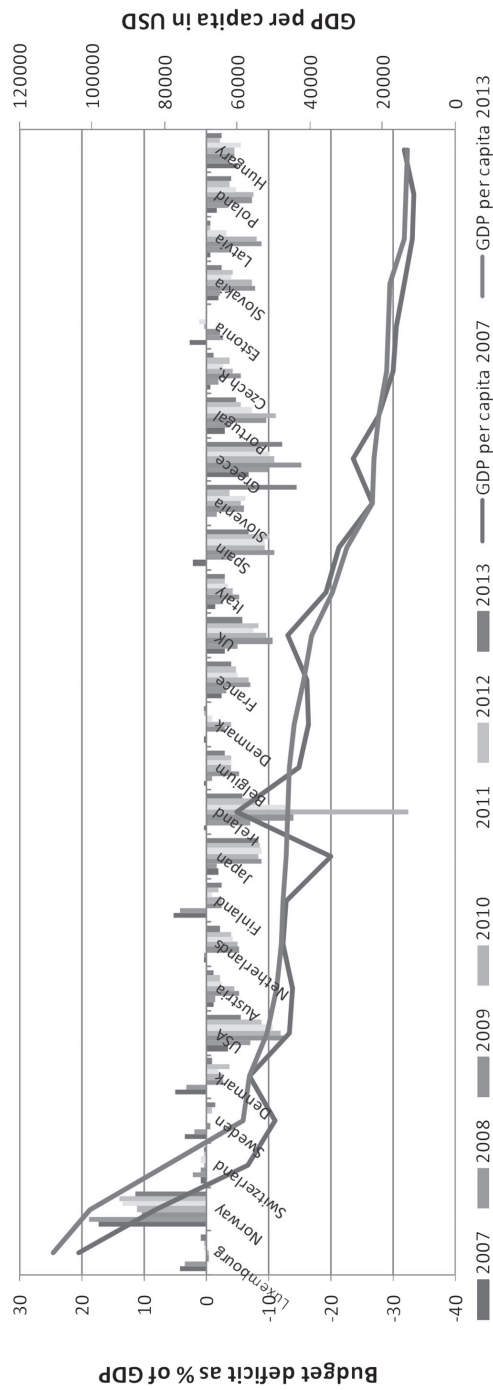


Figure 1. Budget Deficit as % of GDP versus GDP per capita in USD

Source: Own analysis on the basis of OECD data – <https://stats.oecd.org/index.aspx?queryid=51396>

type of assistance, become more and more dependent on it (Rzońca, 2008, pp. 14–16). In 2010–2013 the number of countries with deficit stabilised. Further, this phenomenon was accompanied by decreasing deficit values. CEE countries, in terms of budget deficit to GDP, found themselves among states with medium values of this measure (with Slovenia being a negative exception and Estonia – a positive one).

In 2007 the top values of the public debt were reported in: Japan (180% of GDP), Greece (112.8% of GDP), Italy (110.6% of GDP), Belgium (93.5% of GDP), while the lowest in: Estonia (7.3% of GDP), Luxembourg (11.9% of GDP), Latvia (12.8% of GDP), Ireland (27.5% of GDP), Slovenia (29.1% of GDP). In 2013 the highest public debt levels were observed in: Japan (239.3% of GDP), Greece (179.7% of GDP), Italy (143.0% of GDP), Portugal (141.2% of GDP), Ireland (136.6% of GDP), while the lowest in: Estonia (13.5% of GDP), Luxembourg (30.1% of GDP), Norway (34.8% of GDP), Latvia (42.6% of GDP), Sweden (44.6% of GDP).

As may be noticed from 2007 to 2013, particularly in the countries with poorest results, there was a vivid increase of the public debt from 100–180% up to 140–200% of GDP. Among the best ones, the situation also deteriorated because the public debt in this group increased from levels of 10–30% up to 30–50% of GDP. As regards the public debt, the CEE countries found themselves among those analysed states with the lowest values (with Hungary as a negative exception).

Thematic Maps no. 1 and 2 (figure 2) present the spatial distribution, in the same ranges of colours and classes, of relative values of central and local government institutions' debt in 2007 and 2013, respectively. The applied analysis method has brought interesting results here. One may, first of all, notice a process of spectacular increase of relative values of public debt in OECD member states between 2007 and 2013. It also turns out that this growth was not only observed in South European countries (Greece, Italy, Portugal, Spain) but also Ireland, France and the United Kingdom. Clearly lower debts were observed in the countries of Central Europe (Hungary, Austria, Slovenia, Germany). The mildest growth of relative and, consequently, the lowest debts were observed in post-communist countries (Poland, Slovakia, the Czech Republic, Latvia, Estonia) and in the Scandinavian countries. Thematic Map no. 2 is virtually a model presentation of „three geographic zones” representing three groups of countries, which clearly demonstrates „diversities” of Europe in terms of relative debt values of central and local government institutions.

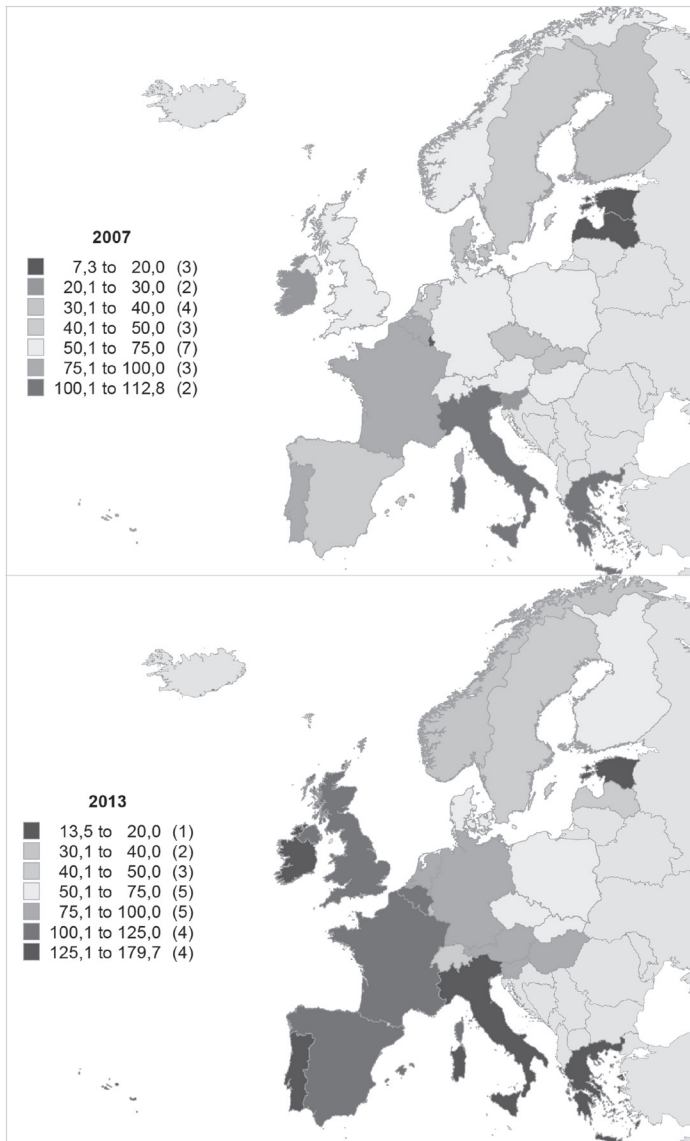


Figure 2. Thematic Maps no. 1 and no. 2: Gross Public Debt of Central and Local Government Institution's Sector as % of GDP in 2007 and 2013

Source: Own analysis on the basis of OECD database – <https://stats.oecd.org/index.aspx?queryid=51396>. The map does not include the USA and Japan with values of 63.1 and 180.0 as well as 102.7 and 239.3 in 2007 and 2013, respectively, which means they fall into high public debt ranges; additionally, for 2013 due to the lack of data for Switzerland, the 2012 debt value of 45.7% was taken for the analysis.

Table 1. Expenditure of Central and Local Government Institutions' Sector Per Capita in USD versus Gross Public Debt as Percentage of GDP

| Expenditure Debt | 2009 | | | | | | | | | | 2013 | | | |
|---------------------|-------------|----------------------|-------------------|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------|---------|--|--|----------------------|
| | <10 000 | 10 001- 12 000 | 12 001- 14 000 | 14 001- 16 000 | 16 001- 18 000 | 18 001- 20 000 | 20 001- 22 000 | 22 001- 24 000 | 24 001- 26 000 | >26 001 | | | | |
| <<40 | ESTONIA | | | | Switzerland | | | | | | | | | Luxembourg |
| 41-50 | LATVIA | SLOVAKIA CZECH R. | SLOVENIA | | | | Finland Sweden | Denmark | Norway | | | | | |
| 51-60 | POLAND | | | | | | | | | | | | | |
| 61-70 | | | | Spain | | | Netherlands | | | | | | | |
| 71-80 | | | | | Germany | | Austria | | | | | | | |
| 81-90 | | HUNGARY | | | | | USA | | | | | | | |
| 91-100 | | | Portugal | | | France | | | | | | | | |
| >>101 | | | Japan | | Italy Greece | | Belgium | | | | | | | |
| | 2013 | | | | | | | | | | | | | |
| <<30 | ESTONIA | | | | | | | | | | | | | Norway Luxembourg |
| 30-40 | | | | | | | | | | | | | | |
| 41-50 | LATVIA | | | | | | | | | | | | | |
| 51-60 | | | | | | Switzerland* | | | | Sweden | | | | |
| 61-70 | | POLAND SLOVAKIA | CZECH R. | | | | | | | | Finland | | | |
| 71-80 | | | | | SLOVENIA | | | | | | | | | |
| 81-90 | | | | | | Germany | | | | Austria | | | | |
| 91-100 | | HUNGARY | | | UK | | | | | | | | | |
| >>101 | | | Portugal | Spain Japan Greece | Italy | Ireland | France USA | Belgium | | | | | | |

* no data available, 2012 data was taken for analysis.

Source: Own analysis on the basis of OECD database - <https://stats.oecd.org/index.aspx?queryid=51396>

Paradoxically, the „healthiest” public finance systems were observed in the Central and Eastern Europe countries.

What is characteristic is the fact that in 2013 the debt is weakened „going” along the south-west axis (Portugal, Spain) towards north-west (Finland, Sweden, Estonia, Latvia – compare Thematic Map no. 2).

What deserves special attention is the measures which show deficit and public debt values observed at the beginning of the crisis (in 2007) and in 2013 (the last year for which fairly complete data are available) – compare Table 1.

Separate examinations of the public debt and of the public spending to describe the condition of the public sector in individual countries do not provide a true picture of the situation. Thus, Table 1 presents correlations of the public debt as percentage of GDP and the public spending per capita in USD. Such comparisons have been prepared for 2009 and 2013⁴. The presented data allow formulation of the following facts:

- between 2009 and 2013, in the group of the analysed countries, there was an increase of the public debt (in 2009 the public debt of over 80% of GDP was observed in 8 and in 2013 – in 13 countries out of 26 under examination);
- a relatively high level of public debt is not an obstacle for increasing public expenditure in the most developed countries (in 2009 the highest expenditure and the highest relative debt levels were observed in France, the USA and Belgium, while in 2013 – that was additionally Germany, Ireland and Austria);
- among the examined countries, both in 2009 and 2013, all the examined EU member states from Central and Eastern Europe (Estonia, Latvia, Poland, Slovakia, the Czech Republic, Slovenia) invariably demonstrated the lowest public debt versus GDP and the lowest public expenditure per capita in USD. Hungary diverged from that group to a narrow extent. This situation proves those countries maintained public expenditure discipline despite having the lowest spending among the examined countries calculated in absolute values per capita.

Tasks directly or indirectly accomplished by the public sector institutions must be directly reflected in the volumes and structure of public expenditure. Fairly advanced are attempts to identify – through indication and precise definition – financial investments, which define the scope of the state’s func-

⁴The choice of years (just like in Table 2) has been dictated by the availability of fairly complete statistical data.

tions. This is supported by COFOG⁵ developed within the System of National Accounts, or SNA. Such classification has a number of potential strengths, however, its consistent application is difficult even to single countries and satisfactory comparability between countries and comparability in time are also hardly achievable. This particularly applies to the structure of public income and spending in individual countries. Despite the missing items, Classification of the Functions of Government, or COFOG, allows making comparisons in time and between countries. On the basis of recurring analyses one may observe that within different „types” of social-economic states in the EU (both highly developed and post-communist countries) there is a similar share of consolidated investments⁶ of the central and local government institutions versus GDP.

Thematic Maps no. 3 and no. 4 (Figure 3) present, in the same ranges of colours and classes, relative values of central and local government institutions' spending as percentage of GDP in 2007 and 2013. When comparing both maps it is clearly visible that during the 2007+ crisis, the level of spending of the discussed group measured in this manner quite significantly increased in nearly all of the analysed OECD member states. Both in 2007 and 2013, relatively lowest expenditures were observed in CEE countries. It must be particularly stressed that unlike the definite majority of the countries under examination, relative values of public spending in Poland and Hungary dropped between 2007 and 2013.

Observation of the levels of fiscalisation and socialisation of the economy, expressed as the ratio of income and spending of the discussed sector to GDP, does not allow defining the real level of this spending. Therefore, Table 2, separately for 2009 and 2013, correlates the government expenditure per capita in USD with this sector's intensified involvement in the sphere of direct expenditures of the „social” nature. Such expenditures include seven out of ten COFOG groups of functional spending, namely spending on: environmental protection; housing and community amenities; health; recreation culture and religion; education; and social protection. For each of the analysed ratios, all the examined countries were divided into three groups by a given measure, i.e. the maximum, the average and the minimum. The maximum level was assigned weight 2, the average – weight 1, and the

⁵ Classification of the Functions of Government.

⁶ „Consolidated investments of the central and local government institutions” represent the net sum of expenditures and purchases of non-financial assets after eliminating intra- and inter-institutional transfers.

minimum – weight 0. In this ranking method the rank values were summed up for each of the examined countries. This defined the „pro-social” profile of the public sector’s spending and helped arrange them from the highest to the lowest involvement of public expenditure in the social sphere. The resulting hierarchical layout of the countries was correlated in a matrix with the spending of central and local government institutions’ presented in USD per capita. This led to the estimation of public „pro-social spending” in the analysed countries.

When comparing data in Table 2 for the years of 2009 and 2013 one may see lower intensity of „pro-social spending” – in 2009 low involvement in this expenditure group (ranks 3–6) was observed in 8 countries, while in 2013 (ranks 2–6) – in 14 countries. It must, however, be stressed that among the countries analysed here there are greater than twofold differences in the expenditure of the sector counted in USD per capita. Thus both in 2009 and 2013 this type of expenditures by „rich” and „less affluent” countries are not similar despite the fact that both these groups demonstrated similar shares of „pro-social spending” in the public sector’s total spending. In particular, one must point out that CEE countries (Estonia, Latvia, Poland, Slovakia, Hungary, the Czech Republic, reporting average involvement in „pro-social spending”, spend 1.5 to 2 times less per capita than the highly developed countries.

When analysing the abovementioned different involvements of investment groups of the discussed sector versus GDP generated in individual countries, one must remember that these differences are multiplied by disproportions in per capita GDP in the analysed objects.

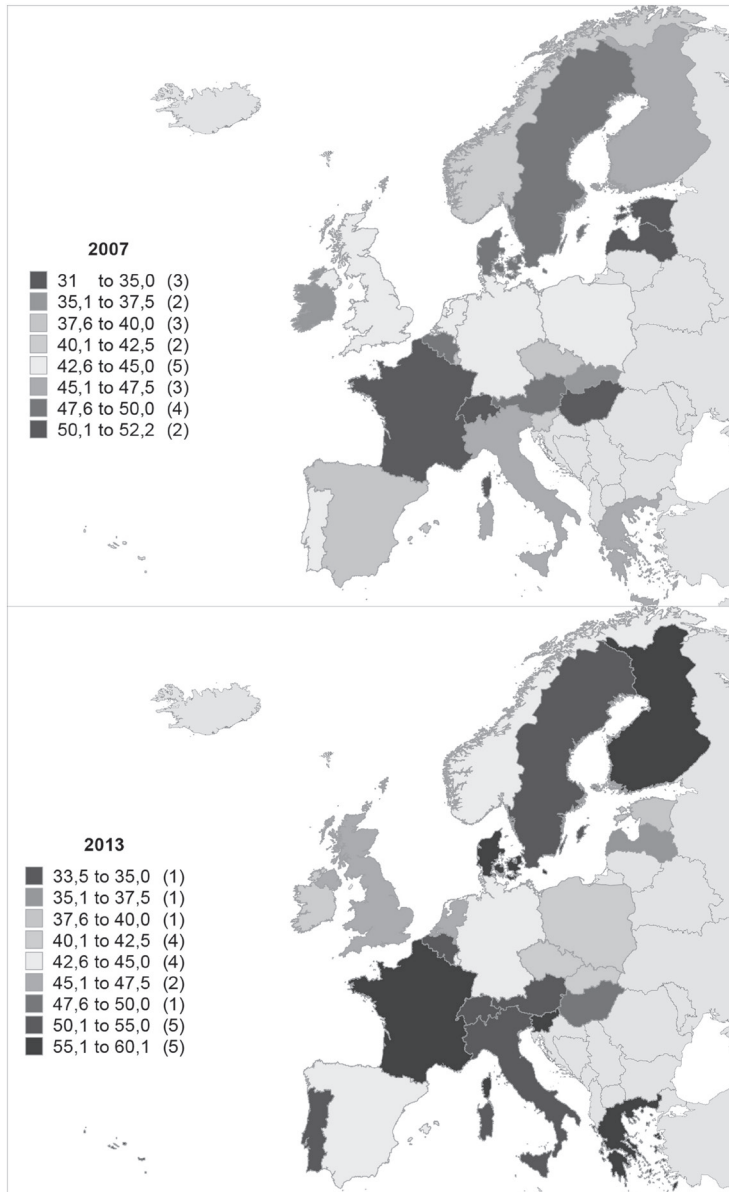


Figure 3. Thematic Map no. 3 and no. 4: Expenditures of Central and Local Government Institutions as % of GDP in 2007 and 2013

Source: Own analysis on the basis of OECD database - <https://stats.oecd.org/index.aspx?queryid=51396>. The map does not include the USA and Japan with values of 36.9 as well as 35.8 and 38.7 as well as 42.3 in 2007 and 2013, respectively - which means that they fall into low spending ranges.

Table 2. Expenditure of Central and Local Government Institutions' Sector Per Capita in USD versus Share of „Pro-Social” Spending in Total % of This Sector's Spending

| USD Weight | <10 000 | 10 001-12 000 | 12 001-14 000 | 14 001-16 000 | 16 001-18 000 | 18 001-20 000 | 20 001-22 000 | 22 001-24 000 | 24 001-26 000 | >26 001 |
|---------------|-------------------|-----------------------------------|-------------------|---------------|----------------|-------------------------|--------------------------|---------------|---------------|------------|
| | | | | | | | | | | |
| | 2009 | | | | | | | | | |
| 3 | | | | | | | Austria | | | |
| 4 | | | | | Greece | | | | | |
| 5 | | | | | Italy | | | | | |
| 6 | | | | | Switzerland | | Finland Sweden USA | Denmark | | |
| 7 | ESTONIA LATVIA | CZECH REP. SLOVAKIA HUNGARY | Portugal | | Germany | | Belgium | | | |
| 8 | POLAND | | Japan SLOVENIA | | | | | | Norway | |
| 9 | | | | Spain | | France Ireland UK | Netherlands | | | |
| 10 | | | | | | | | | | Luxembourg |
| | 2013 | | | | | | | | | |
| 2 | | | | Greece | | | | | Austria | |
| 4 | | | | | | | | | | |
| 5 | | HUNGARY | | | | Ireland | USA | | | |
| 6 | | POLAND | Portugal | Spain | SLOVENIA UK | Germany | Finland Sweden | Denmark | | |
| 7 | ESTONIA | | | | Italy | Switzerland | Belgium | | | Norway |
| 8 | LATVIA | SLOVAKIA | CZECH REP. | Japan | | | | | | |
| 9 | | | | | | | France | | | |
| 10 | | | | | | | | | | Luxembourg |
| 11 | | | | | | | Netherlands | | | |

Source: Own analysis on the basis of OECD database – <https://stats.oecd.org/index.aspx?queryid=51396>.

Conclusions

The countries which after the year 1989 transformed, built their economic, social and financial systems, followed recommendations of international financial institutions, including those functioning within the EU. These recommendations turn out to have been and still are, in majority of cases, followed in practice, which is not the case in highly developed countries. Paradoxically, post-communist countries in most cases, compared to „affluent” countries of Western Europe, maintain public finance discipline and stabilise or even limit their spending to curb their debts.

The summary must also contain the following conclusions:

- the 2007+ Crisis increased expenditure of the central and local government institutions. This took place particularly in highly developed EU states, not only those undergoing structural difficulties (Spain, Greece or Ireland);
- the public sectors in Central and Eastern European countries, despite keeping their spending at an average level versus GDP, actually spend 2–3 times less than those in highly developed countries with high GDP values, which indirectly translates there into high public expenditure per capita in USD.

Following the analysis one may distinguish three groups – South European countries (Greece, Spain, Italy, Portugal) suffering from structural difficulties in the public finance area. Similar debt values are observed in highly developed, relatively „healthy” economies like France, Germany, the United Kingdom, the Benelux countries. Most of them have high levels of public debt and high relative and absolute levels of public spending. A separate group is here formed by „new” members of the European Union: Poland, the Czech Republic, Latvia, Estonia, Hungary, Slovakia, Slovenia, which have relatively low levels of public debt, average-low levels of public expenditure, while in terms of per capita values definitely stand out among the rest of the EU highly developed countries. In this group of countries one may hardly identify similar behaviours compared to two previously mentioned groups of highly developed countries.

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THE INFLUENCE OF INTELLECTUAL CAPITAL ON COMPETITIVENESS OF ENTERPRISES IN LIGHT OF RESEARCH – AN OUTLINE OF THE ISSUE

A good financial situation of the companies involved in the survey is closely connected with intellectual capital, especially human capital and innovative capital. Thanks to new technologies, products, certificates and patents which are vital elements of innovative capital, companies can compete and stand out in the world of business. However, those components can be created only thanks to experienced, creative and well-educated staff. Podkarpackie Province has become more and more attractive in terms of economy. It is possible thanks to the entrepreneurs' involvement, economic zones which attract new companies as well as clusters operating in the area – for instance „Dolina Lotnicza” Cluster or Computer Cluster. The research carried out among 400 respondents from various companies, selected intellectual capital indicators and the analysis of economic and financial indicators – mainly profitability – confirm that the companies in the area consequently raise their value by means of a continuous development and by reinforcing their intellectual and creative potential. As a result their competitiveness and market share increase. The results of the research mentioned in the article provide information concerning the extent of intellectual capital in selected enterprises and its influence on competitiveness of companies. The attempt to evaluate the extent of intellectual capital and its influence on competitiveness, explains the issue of non-tangible assets which closely connected with businesses. The analyses of the data presented in the article touched only some of the issues concerning the influence of intellectual capital on companies' competitiveness. However, it is already clear that in the future the value of the companies and their development will be largely influenced by properly exploited intellectual capital which every company has.

JEL Classification Codes: 034.

Keywords: intellectual capital, human capital, knowledge, competitiveness.

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Introduction

The processes of globalisation have aroused lots of interest and focused practitioners and scientists' attention on the role of intellectual capital in creating and achieving the competitive position in the market. In light of expanding competitiveness, chances for further development and survive have only those enterprises, which are open to the notion of a constant increase of their contention by means of a proper administering of intellectual capital, especially human capital. Employees, their skills, knowledge and competence are considered to be the basic source of achieving competitive advantage in the market.

Nowadays, one of the greatest challenges which research and development teams involved in problems of intellectual capital face is finding the answer to a question about intellectual capital's influence on creating the value of an enterprise. Moreover, their aim is to discover in what way and to what extent intellectual capital influences the enterprises' competitiveness.

The issues concerning economy based on knowledge and processes of creating an informative society have become the main focus in recent years. Regardless of the definitions used, and despite the differences in meaning concerning these terms, there exists a common factor for all of them, mainly the notion of shifting accents from tangible to non-tangible resources which are often considered as intellectual ones. The size and productivity of these resources are extremely difficult to assess, however, knowing them facilitates the process of estimating their impact on companies' competitiveness and makes the future brighter. Moreover, these two factors enable to predict the sources of companies' future achievements and use them more effectively.

Economy based on knowledge is closely connected with the occurrence of new sources of competitive advantage such as: technologies, effective way of serving customers, company's reputation, new brands, the ability of taking over new markets, et cetera. Non-tangible factors complete and often, to great extent, substitute financial capital as a basic source of creating the value of an enterprise. Human capital decides about companies' competitiveness – knowledge, skills competence, employees' innovative way of thinking as well as company's ability to create and exploit these sources.

The main reason of confining attention to the intellectual capital is connected with its meaningful impact on competitive advantage of a company. In order to build and expand it more effectively, the elements of intellectual capital should be connected and managed properly. Interactions between these elements are meaningful, for example the effective work of human capital is enhanced by organisational capital, thus they are worth noticing.

However, market capital without the support of human and organisational capitals cannot shape the value of a company's intellectual capital.

Particular components of the intellectual capital can influence the level of competitiveness achieved by a company. For instance, a well-managed human capital by means of a proper motivation of employed workers facilitates the process of creating and exploiting the specialist knowledge, competence and creativity. As a result, the increase of a competitive advantage of an enterprise takes place. A necessary condition which contemporary enterprises aspiring to develop and compete effectively in the market should fulfil, is the adequate shaping of intellectual capital's components.

The aim of this article is to assess the extent to which the intellectual capital influences the competitiveness of businesses.

Key factors influencing the success of contemporary enterprises

Nowadays the key factors of a success which take active part in competitive confrontation between enterprises are closely connected with components of an intellectual capital. The major component of intellectual capital which secures company's competitiveness is human capital. Thanks to the employees' knowledge, their skills, experience or creativity the company achieves considerable competitive advantage, for instance by introducing brand new and unique products/services, acquiring certificates, implementing the newest technologies etc. Human capital is the source of innovations in an enterprise, the outcome of which are scientific and developmental researches. The intellectual property (patents, copyright laws) is the effect of these researches and a component of an organisational capital. In addition to that investing in human capital, as well as adequate motivation of employees, which in consequence contributes to their creativity, is also a priority. The usage of a structural capital combined with these investments contribute to creating new solutions thanks to which an enterprise becomes more competitive. The socio-economic development is positively influenced by human capital. The main benefits are (Gagacka, 2007):

1. Increased innovation and competitiveness of economies and societies, their abilities to implement world achievements in fields of science, technology and culture.
2. Positive influence on institutional changes and modernisation of social and economic structures.
3. Stimulating the development of a modern technical, organisational, informative and social infrastructure.

4. Creating favourable conditions for spreading modern patterns of consumerism, increasing the quality of life, promoting work ethics and effectiveness.

Analysing the components of intellectual capital in research on competitiveness, it is worth stressing out that more and more important part is attributed to social capital, since it is defined as a net of mutual connections and trust. These components become a foundation for an enterprise and its rules. Social interactions mainly provide opportunities to mobilise and multiply non-tangible resources of an enterprise thanks to which companies increase their competitive advantage. The meaning of non-tangible values in managing enterprises constantly increases. This leads to the necessity of searching for factors which determine companies' progress. Non-tangible values deeply rooted in social capital stimulate competitiveness and resourcefulness.

In order to function properly in the markets modern enterprises have to cooperate with the outside world. In economy based on knowledge, the essential meaning is attributed to a constant cooperation with other identities as well as to a mutual loyalty and trust – that is relational capital. Thanks to this cooperation companies are more innovative as the mutual work with the outside partners become the main source of new ideas. Customers who contribute largely to the improvement of products or services are especially important, as this kind of cooperation gives a possibility to use new technologies, other identities' skills or markets. Moreover, it affects positively the exchange of knowledge among other business partners. Apart from that engaging users in the process of creating new goods/services facilitates greater consideration of customers' needs and at the same time can contribute to a decrease in the number of failures while introducing novelties to the market.

Creating patterns of activity thanks to which competitiveness can be built by means of innovations is a long-term challenge for enterprises. This requires better use of intellectual capital's resources and developing it. The main objective should be focused on further activity concerning human capital necessary for creating innovations.

Competitive advantage based on intellectual capital, facilitates the process of achieving a success in a long-term, though it requires a more effective management policy. Enterprises willing to become more successful and to increase their competitiveness should create and implement a unique strategy which will indicate basic directions and tools useful in managing intellectual resources.

Results of the research

In order to estimate how the intellectual capital influences the competitiveness of enterprises in Podkarpackie Province, a survey research was conducted in 2014. During this research more than 400 respondents linked to different enterprises were evaluated and the choice of those polled was deliberate. The collected data was interpreted by means of a statistical method – Pearson's test χ^2 (chi square) – concerning impartiality of qualities.

In 2015 the complementary research was conducted, defined as the second part of the research, in order to expand the knowledge about the state of human capital as well as economic situation in evaluated enterprises. It was made by means of economic indicators and closely defined financial data received from companies³.

The index analysis was conducted among 100 enterprises (out of 400 selected in the first place for the survey). The choice was conditioned by the availability of data on the basis of which the value of particular indicators could be estimated. The aim of the analysis was to capture and indicate the characteristics of the evaluated enterprises and differentiate the level of further indicators. In order to achieve this, a univariate analysis of variance was applied as a method of verification. The null hypothesis of the equality of the general population was verified by means of Fisher-Snedecor method. Application of this test was possible because – based on the results of equations made by Kołomogorow-Smirnow test – calculated indicators can be treated as continuous variables with distributions similar to normal (level of significance $\alpha = 0.05$).

The optimal solution was to choose a few of the – human capital key indicators (in this case 9) which refer to the measurements of a human capital in terms of an enterprise, and which cover the essential aspects of a company's business.

Table 1 contains a description of persons taking part in a survey. Segments indicated in respondent's particulars questions of a survey are highlighted.

³The second part of the research concerned selected enterprises in which respondents from the first part of the study expressed their opinions on the state of intellectual capital and competitiveness.

Table 1. Respondents' description

| Segmentation criteria | Segment | N | % |
|------------------------------|--------------------------------------|-----|------|
| Position held | Production, manager / director | 31 | 7.7 |
| | Sales, manager / director | 38 | 9.5 |
| | Administration, manager / director | 38 | 9.5 |
| | Production, low-ranking employee | 49 | 12.2 |
| | Sales, low-ranking employee | 40 | 10.0 |
| | Administration, low-ranking employee | 69 | 17.2 |
| | Human Resource manager | 7 | 1.7 |
| | Customer service position | 62 | 15.5 |
| | Managerial position | 5 | 1.2 |
| | Financial position | 22 | 5.5 |
| | Designer | 13 | 3.2 |
| | Technologist | 10 | 2.5 |
| | Other | 16 | 4.0 |
| Work experience in a company | Up to 3 years | 179 | 44.7 |
| | 4–8 years | 94 | 23.5 |
| | 9–13 years | 37 | 9.2 |
| | 13–18 years | 37 | 9.2 |
| | 19 years or more | 53 | 13.2 |
| Age | under 25 | 99 | 24.8 |
| | 25–35 ys | 155 | 38.7 |
| | 36–45 ys | 95 | 23.7 |
| | 46–55 ys | 39 | 9.8 |
| | 56 years or more | 12 | 3.0 |
| Sex | Female | 227 | 56.8 |
| | Male | 173 | 43.2 |

Source: self-study based on research.

Table 2 presents a description of the enterprises which is based on four questions asked in a survey: size of a company (based on the number of employees), main line of business (basic type of business), area of business (range), foreign capital share and assessment of company's financial condition made by a respondent.

Table 3. illustrates the examples of evaluated relations between components of intellectual capital and measurements of competitiveness.

Table 2. Description of surveyed companies

| Segmentation criteria | Segment | N | % |
|--------------------------------|---|-----|------|
| Size | Micro: 0–9 persons | 82 | 20.5 |
| | Small: 10–49 persons | 130 | 32.5 |
| | Medium: 50–249 persons | 126 | 31.5 |
| | Big: 250 or more persons | 62 | 15.5 |
| Main line of business | Industrial production | 93 | 23.2 |
| | Services | 161 | 40.2 |
| | Trade | 53 | 13.2 |
| | Sale | 28 | 7.0 |
| | Trade and services | 10 | 2.5 |
| | Finance and insurance | 28 | 7.0 |
| | Services and sale Or Services and finance and insurance | 6 | 1.5 |
| | Other | 21 | 5.2 |
| Area of business activity | International | 142 | 35.5 |
| | National | 137 | 34.2 |
| | Regional | 121 | 30.2 |
| Foreign capital share | 0% | 265 | 66.2 |
| | 1–25% | 37 | 9.2 |
| | 26–50% | 29 | 7.2 |
| | 51–75% | 21 | 5.2 |
| | 76–100% | 48 | 12.0 |
| Assessment of financial status | Very good | 102 | 25.5 |
| | Good | 178 | 44.5 |
| | Average | 88 | 22.0 |
| | Poor | 32 | 8.0 |

Source: self-study based on research.

Table 3. Relations between the evaluation of components of corporate culture and the evaluation of enterprise's competitive position

| Details | Competitive position | | | | | | χ^2 | p |
|---|----------------------|------|------|------|------------|------|----------|-------|
| | Very good | | Good | | Sufficient | | | |
| | N | % | N | % | N | % | | |
| Awarding activities connected with employees' development | 36 | 28.6 | 50 | 21.8 | 3 | 6.7 | 9.25 | 0.010 |
| Understanding the range of duties | 9 | 7.1 | 48 | 21.0 | 25 | 55.6 | 47.76 | 0.000 |
| Developing employees' abilities by means of education | 30 | 23.8 | 104 | 45.4 | 39 | 86.7 | 54.40 | 0.000 |
| Lack of sense of discrimination | 23 | 18.2 | 65 | 28.4 | 17 | 37.8 | 7.79 | 0.020 |
| Lack of rules and procedures hindering the work progress | 21 | 16.7 | 71 | 31.0 | 22 | 48.9 | 19.38 | 0.001 |
| Sense of support and openness offered by an employer | 18 | 14.3 | 71 | 31.0 | 30 | 66.7 | 43.93 | 0.000 |

Source: self-study based on research.

Table 4. Values of Pearson's correlation indicators between human capital indicators

| Indicators | Indicator of full-time employees | Indicator of seniority | Indicator of newly-employed people within a year | Indicator of fluctuation | Indicator of employed women | Indicator of number of employees engaged in projects | Indicator of innovation | Indicator of annual investment in trainings | Indicator of trainings costs in sales value |
|--|----------------------------------|------------------------|--|--------------------------|-----------------------------|--|-------------------------|---|---|
| Indicator of full-time employees | 1.00 | -0.11 | -0.08 | -0.38* | +0.02 | +0.62* | +0.67* | +0.12 | -0.03 |
| Indicator of seniority | | 1.00 | -0.23 | -0.15 | -0.06 | +0.56* | +0.48* | -0.18 | -0.08 |
| Indicator of newly-employed people within a year | | | 1.00 | +0.11 | +0.08 | -0.16 | +0.37* | +0.42* | +0.09 |
| Indicator of fluctuation | | | | 1.00 | +0.44* | -0.41* | -0.35* | +0.21 | +0.11 |
| Indicator of employed women | | | | | 1.00 | +0.07 | -0.06 | -0.01 | +0.02 |
| Indicator of number of employees engaged in projects | | | | | | 1.00 | +0.22 | +0.38* | +0.08 |
| Indicator of innovation | | | | | | | 1.00 | +0.20 | +0.13 |
| Indicator of annual investment in trainings | | | | | | | | 1.00 | +0.57* |
| Indicator of trainings costs in sales value | | | | | | | | | 1.00 |

Source: self-study based on financial data obtained from 100 companies.

Using financial data and an inquiring method, the economic indicators of human capital as well as the correlation between the measures were established. This contributed largely to a more precise depiction of a human capital in evaluated companies. The economic indicators presented in this part of a research are only some of the possible ones that can be applied. Thanks to them it is possible to analyse the influence of a human capital on competitiveness between enterprises. The final results of a human capital assessment should be treated as an attempt to evaluate its value rather than as a real value itself.

The value of Pearson's indicators and the results of testing enable to come to the following conclusions which result from correlations of human capital indicators in enterprises located in Podkarpackie Province:

1. Indicator of full-time employees increases, which results in: a decrease of fluctuation indicator, an increase of the number of employees engaged in projects and an increase of innovation indicator.

2. Along with the increase of indicator of seniority, there is an increase in innovation indicator and the number of employees engaged in projects.
3. Increase of indicator of newly-employed people within a year results in an increase of annual costs of trainings indicator.
4. Fluctuation indicator increases, along with indicator of women employment, however, number of employees engaged in projects indicator and innovation indicator decrease.
5. Number of employees engaged in projects indicator increases along with indicator of annual costs of trainings and this results in an increase of indicator of training costs in the value of sales.

The pace of increase in profit margin indicators⁴ proves that the economic situation and competitiveness of enterprises in Podkarpackie Province are good.

Table 5. Values of economic indicators in enterprises in years 2011–2015

| Lp. | Indicators (%) | Years | | | | |
|-----|--|-------|------|------|------|------|
| | | 2011 | 2012 | 2013 | 2014 | 2015 |
| 1. | Assets profit margin | 5.0 | 4.2 | 6.0 | 4.7 | 5.0 |
| 2. | Fixed assets profit margin | 8.1 | 6.6 | 9.3 | 7.7 | 8.2 |
| 3. | Current assets profit margin | 12.7 | 11.2 | 16.5 | 12.1 | 12.5 |
| 4. | Equity capital profit margin | 8.2 | 6.9 | 9.8 | 8.6 | 9.1 |
| 5. | Gross profit margin (gross profit sale) | 4.4 | 3.9 | 5.6 | 4.5 | 4.7 |
| 6. | Net profit margin (net profit sale) | 3.8 | 3.4 | 5.1 | 3.9 | 4.2 |
| 7. | Total costs profit margin | 95.6 | 96.1 | 94.4 | 95.5 | 95.3 |
| 8. | III degree of liquidity profit margin III (current liquidity margin) | 1.54 | 1.59 | 1.53 | 1.56 | 1.57 |

Source: self-study based on financial data obtained from medium-sized and big companies.

The analysis of profitability indicators and financial liquidity conducted in the period of five years confirmed the increase of enterprises' value. This could be possible thanks to the increasing sale of products, foods and materials. The values of economic and financial indicators presented above, especially the net profit margin for sale, whose value hesitates between 3.8% – 5.1% indicate the increasing participation of companies based in Podkar-

⁴ Economic and financial indicators have been calculated for 188 businesses (medium-sized and big ones) which participate in a survey concerning: „The impact of intellectual capital on the competitiveness of Podkarpackie Province”.

packie Province in the market. Stable financial situation along with an active innovation business which is reflected in the increase of the income from the sale of new products or improved ones, especially in companies linked to the business of industry and service sector prove to what extent the enterprises are competitive. These companies have the greatest impact on the evaluated market.

In the area of Podkarpckie Province new technologically advanced or upgraded products are sold thanks to which the province is highly rated in the country (third position on the ranking list). Dolnośląskie Province and Śląskie Province achieve better results in terms of sale (first and second position). Moreover, the export of goods is very meaningful here – in 2013 it was equal to 24.37%, in 2014 – 25.22%, and in 2015 – 23.44% of the whole income from trade (GUS, 2014).

Competitiveness of companies located in Podkarpackie Province is also influenced by innovative business activity and intramural expenditures on R + D companies. Industrial companies which introduced innovations were on the sixth ranking position among all Polish provinces (value of the indicator 19.7%). At the same period of time service enterprises were on the seventh ranking position (result – 11.9%). Expenditures invested in innovative business activity in industrial companies in 2014 were equal to 1881.9 million PLN which gave them the sixth classification in the national ranking. Expenditures invested in innovative business activity in service enterprises in 2014 were equal to 9 million PLN and this gave them the eighth position among other Polish provinces.

In 2014 in the area of Podkarpckie Province, the expenditures connected with innovative business activity in a single enterprise were equal to 8078.0 thousand PLN among industrial companies (III position in the province ranking). Service enterprises were classified as the second with the expenditures of 5045.5 thousand PLN.

Conclusion

The analysis of the survey results, relations between components of intellectual capital and competitiveness allow to indicate the components of intellectual capital which to a great extent influence the competitiveness of enterprises located in Podkarpackie Province. Estimated economic indicators of intellectual capital and average values of economic and financial indicators confirmed the results of the survey. They also prove that the financial situa-

tion of companies is stable and the level of competitiveness is high. Despite the fact that the evaluated companies have already an established position in the market, they still aspire to increase their value, mainly by means of growing sale which results in expanding share in the market.

Correlations between particular components of intellectual capital and selected elements of competitiveness as well as strategic elements have been analyzed.

The most advanced and widely used aspect of an intellectual capital is **human capital**, that is why the managers should treat it as the main source of a success for companies operating in Podkarpackie Province. Human capital – employees, their knowledge, skills, experience – are the most valuable assets of a company which influence the development, economic results and competitiveness of enterprises on the market.

Human capital is the essential link in company's development – the employed workers create and invent new technologies, behaviour, rules and values. **Competencies** of the employees who have taken part in the survey are extremely important here.

Company workers have to respond to different challenges on a daily basis regardless of the position they held.

Nowadays employers have to head-hunt the best specialists in the market and do everything within their power to make them stay in a company. One of the effective ways is to invest in people's personal development. **Investing in human resources** is an essential element of intellectual capital development. It is possible thanks to various trainings and workshops which expand employees' knowledge, skills and support planning individual career paths, different courses, conferences. These forms of development contribute to building up a positive image of a company and an attractive and innovative employer. This opinion attracts responsible, competent employees since well-educated workers want to be employed by companies which offer them great career prospects.

The employees' knowledge is one of the components of intellectual capital used to a great extent by companies. Knowledge is one of the most important sources of competitive advantage, because it conditions the progress of a company. The research indicates that managers and people employed in the area of Podkarpackie Province have great knowledge which influences the increase of intellectual capital. Many innovative enterprises mentioned in the survey are still expanding – they create new posts, introduce modern products, technologies, patents, obtain certificates and conquer new markets all over the world.

According to the survey, **organisational culture** has an important meaning in business activity of enterprises. It exerts a significant influence on general functioning and an increase of effectiveness of companies. Moreover, it contributes to a financial success, stability (reinforces the sense of identity in a workplace – giving values which can be easily applied) and flexibility that is an ability to adapt (understanding the need for new challenges – clear distinction of key competences and strategic aims which companies want to achieve).

One of the most valuable factors in economy of knowledge are **innovations** – the part they play in functioning of companies in the 21st century becomes greater and greater with time. Moreover, it is believed that apart from human capital, innovations are one of the key elements of intellectual capital. The majority of companies' representatives who have decided to take part in the survey supported innovative business activity, for instance by introducing new technological solutions to the production process, equipment or information technologies in their businesses. Continuous desire to implement innovative products, services or organisational innovations in structures of a company is always emphasized and appreciated.

One of the components of non-tangible assets typical of enterprises evaluated in the survey is **reputation** – an essential trade instrument used for passing on the information concerning a given company, its products or services. Over the years, companies located in Podkarpackie Province have earned a very good reputation in the market, which in turn has a positive influence on their business position – a good quality of their products and services is comparable with other brands available in the market, hence they compete with world leaders and build up their market position. A capital of reputation is believed to be a company's hidden capital, thanks to which enterprises can have a market advantage over others and convince both consumers and investors to accept their offers.

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