

Capital profitability of non-financial corporations

Tomas Verner

Abstract—This paper deals with non-financial corporations. This sector is the largest creator as well as contributor of gross value added at national level. The behavior of this sector can be examined by several indicators. Paper focuses on capital profitability of non-financial corporations. Selected indicators were used: gross return on capital employed before taxes and net return on equity after taxes within the Visegrad group plus countries and EU-28 average during period 2004-2014. On average, according to those indicators Slovakia reaches the highest profitability followed by Austria, Poland, Czech Republic, Hungary, EU-28 average and Slovenia.

Keywords—gross value added, capital, profitability, non-financial corporations.

I. INTRODUCTION

THIS paper deals with the main contributor to national performance: sector of non-financial corporations. This sector is the largest creator as well as contributor of gross value added at national level and consequently gross domestic product as the main macroeconomic indicator. The mean share of non-financial corporations' value added in total value added is 57.5% within European Union 28 countries during 2004 – 2014.

According to [1] national competitiveness is a measure of the relative ability of a nation to create and maintain an environment in which enterprises can compete so that the level of prosperity can be improved. Reference [2] specifies that a nation's primary source of competitiveness is to be found in its enterprises and noted nation's overall level of prosperity results from the interaction of three forces:

- competitiveness of firms: focused on profitability,
- competitiveness of people: focused on personal well-being,
- competitiveness of nations: focused on sustainable prosperity.

Thus firms, enterprises constitute a crucial factor for national competitiveness. Paper continues and expands previous article [3]. The main aim of this paper is to examine

This work was supported by the project SGS/13/2015 "Influence of Selected Macroeconomic and Microeconomic Determinants on the Competitiveness of Regions and Firms in Countries of the Visegrad Group Plus".

Tomas Verner is with the Department of Economics and Public Administration, Silesian University in Opava, School of Business Administration in Karvina, Univerzitni nam. 1934/3, 73340, Karvina, Czech Republic (verner@opf.slu.cz).

capital profitability of non-financial corporations by means of selected indicators of sector analysis such as: gross return on capital employed before taxes and net return on equity after taxes. The Visegrad group plus countries and EU-28 average are discussed during period 2004-2014.

The remainder of the paper is structured as follows. Section 2 briefly presents profitability indicators at microeconomic level describe non-financial corporations; section 3 shows profitability indicators for macroeconomic level; section 4 shows examined data and empirical results; section 5 concludes.

II. COMPANIES AND NON-FINANCIAL CORPORATIONS

A. Microeconomic level

If for instance, manager need to know whether a company is stable, solvent, liquid or profitable, financial analysis is used. Financial analysis covers several methods and indicators, e.g. major types of ratios: leverage ratios, activity ratios, liquidity ratios, profitability ratios [4]. Data are taken from company's balance sheet or income statement. Regarding the purpose of paper profitability ratios are mentioned only. They measures of the degree of success or failure of a given company for a given period of time [5].

Return On Capital Employed (*ROCE*) can be written as (1):

$$ROCE = \frac{EBIT}{CE} \cdot 100 \quad (1)$$

where *EBIT* denotes *Earnings Before Interest and Tax*, *CE* *Capital Employed* (i.e. equity and debt). *ROCE* is an indicator for comparing profitability based on the amount of used capital. Comprehensively evaluates the efficiency of the company [6], how much profit a company generates by one unit of capital employed [4].

Whereas Return On Equity (*ROE*) can be written as (2):

$$ROE = \frac{NI}{E} \cdot 100 \quad (2)$$

where *NI* denotes *Net Income* and *E* *Equity*. It expresses the return on capital invested by shareholders or owners. *ROE* should be higher than interest rate of lower risk bonds (e.g. government bonds), difference is called risk premium [6]. How much net profit a company generates by on unit of capital

invested [4].

When the results are multiplied by 100 they can be explained in per cent.

B. Macroeconomic level

National accounts database, there we can find a lot of information not only about the entire economy but also about another entities, e.g. sectors, branches or industries.

The economy of a country is the outcome of activities of a very large number of units which carry out numerous transactions of various kinds for purposes of production, finance, insurance, redistribution and consumption. National economy is by [7] defined as the sum of resident institutional units.

Institutional units which have a similar type of economic behavior are grouping to subsectors and sectors. National economy consists of five resident institutional sectors:

- non-financial corporations,
- financial corporations,
- general government,
- households,
- non-profit institutions serving households.

Non-financial corporations comprise all private and public companies that produce goods or provide non-financial services to the market [7].

Basically, sector of non-financial corporations consists of public or private enterprises, companies from all industries of the national economy except for financial, insurance or non-market services [8] or consists of joint-stock companies, limited liability companies, limited partnership and general partnership companies (private or public) that produce goods or provide non-financial services to the market.

Eurostat defines few indicators to evaluate profitability of non-financial corporations'. They are very similar to mentioned above. Two of them are presented in following parts.

III. METHODOLOGY AND DATA

Used techniques and data are presented in this section.

A. Methodology and indicators

As well as financial analysis and its indicators can be used for companies, sector analysis and its indicators can be used for non-financial corporations. The standard indicators are: a) absolute indicators (e.g. gross value added, investment, saving, profit or debt), b) relative indicators (e.g. investment rate, saving rate, profit share, debt rate or lending/borrowing rate, profit share) described in [9] or [10].

References [10], [11] or [8] use above mentioned mainly relative indicators to describe and analyze behavior of non-financial corporations sector.

However there are many other indicators, e.g. those known from microeconomic financial analysis which can be used to describe and analyze behavior of non-financial corporations sector. These indicators can be found at Eurostat Metadata [12].

This part focuses on two indicators applied to evaluate the efficiency of used capital by companies at macroeconomic level, i.e. sector of non-financial corporations.

Gross Return On Capital Employed before taxes (*GROCE*) is defined as (3):

$$GROCE = \frac{GOS}{MFL} \cdot 100 \quad (3)$$

where *GOS* denotes *Gross Operating Surplus* and *MFL* *Main Financial Liabilities*. *MFL* is the sum of currency and deposits, debt securities, loans, equity and investment fund shares [12].

Characteristic of *GROCE* is similar to *ROCE*, i.e. comprehensively evaluates the efficiency of the non-financial corporations. How much profit non-financial corporations generate by one unit of capital employed. *GROCE* is applied for comparing profitability based on the amount of used capital.

Net Return On Equity after taxes (*NROE*) is defined as (4):

$$NROE = \frac{NEI - CTI}{E} \cdot 100 \quad (4)$$

where *NEI* means *Net Entrepreneurial Income*, *CTI* *Current Taxes on Income and wealth*, *E* denotes *Equity and investment fund shares* [12].

Characteristic of *NROE* is similar to *ROE*. It expresses the return on capital invested by shareholders or owners. How much net profit non-financial corporations generate by one unit of capital invested. *NROE* should be higher than interest rate of lower risk bonds, e.g. government bonds. Difference should be called risk premium.

B. Data

Sector of non-financial corporations is the largest creator as well as contributor of gross value added at national level. The Visegrad group plus countries¹ and EU-28 average are employed during period 2004-2014. Data are collected from Eurostat: European sector accounts database and Interest rates database. Maastricht criterion bond yields which are central government bond yields on the secondary market with around 10 years' residual maturity are used as long-term interest rates. Table I in the Appendix shows shares of gross value added of non-financial corporations in gross value added of the entire economy.

The highest share of gross value added exhibits the Czech Republic on average (61.5%) followed by Austria (60.6%), Hungary (59.7%), Slovenia (58.4%), (EU-28: 57.5%), Slovakia (50.9%) and Poland (49.4%). The ratio of the initial value increased the most in the Hungary followed by Poland, Czech Republic, Slovenia, average of the EU-28 and Austria, whereas the Slovakia decreased the ratio.

¹ Czech Republic, Hungary, Poland, Slovakia, Austria and Slovenia.

IV. EMPIRICAL RESULTS

Profitability indicators of non-financial corporations are discussed in this section.

A. *GROCE*

Gross return on capital employed before taxes, defined by (3) is presented in the Appendix Table II.

The highest mean value of *GROCE* exhibits Slovakia (21.3%) followed by Poland (18.8%), Czech Republic (18.3), Austria (13.5), Hungary (11.3), EU-28 average (9.3%) and Slovenia (9.2%).

On average, the most profitable used capital is observed in Slovakia, then in Poland, Czech Republic etc. Slovakia reaches the highest profitability based on the amount of used capital.

Non-financial corporations in Slovakia generates about 0.21 EUR of profit by one EUR of capital employed. On the contrary, non-financial corporations in EU-28 average and Slovenia generate 0.09 EUR of profit by one EUR of capital employed.

Nevertheless, rises of average growth rate of *GROCE* experienced the Czech Republic (0.9%) followed by Poland (0.8%) and Slovenia (0.0%), whereas falls were observed in Hungary (-0.6%), Slovakia (-1.0%), EU-28 average (-2.0) and Austria (-3.3%).

B. *NROE*

Net return on equity after taxes defined by (4) and presented in the Appendix Table III.

The highest mean value of *NROE* exhibits Austria (17.4%) followed by Slovakia (15.4%), Poland (14.2%), Czech Republic (10.9%), Hungary (10.1%), EU-28 average (9.1%) and Slovenia (2.8%).

On average, the most profitable capital invested is observed in Austria, then in Slovakia, Poland and Czech Republic etc.

Non-financial corporations in Austria generates about 0.17 EUR of net profit by one EUR of capital invested. On the contrary, non-financial corporations in Slovenia generate almost 0.03 EUR by one EUR of capital invested.

Nevertheless, rises of average growth rate of *NROE* experienced Poland (5.9%) followed by Slovenia (4.1%), Czech Republic (4.0%), Hungary (1.8%), Slovakia (0.6%), whereas falls were observed in EU-28 average (-1.8%) and Austria (-3.5%).

It was mentioned above that *NROE* indicator should be higher than interest rate of lower risk bonds. Table IV in the Appendix shows long-term interest rates. As you can see the highest long-term interest rate is observed in Hungary (7.2%) followed by Poland (5.4%), Slovenia (4.5%), Slovakia (4.1%), EU-28 average (3.9%), Czech Republic (3.6%) and Austria (3.3%).

Due to economic and political position within the European Union countries negative average growth rate of long-term interest rates were observed (-3.5% Slovenia, -5.2% Hungary, -6.5% Poland, -6.8% EU-28 average, -8.5% Slovakia, -9.7% Austria and -10.6% Czech Republic).

Mean values of *NROE* are higher than mean values of interest rates, except Slovenia. Comparing Table III and Table IV (both in the Appendix), it was found that positive difference (between *NROE* and interest rate) exhibit (descending) Austria (14.1%), Slovakia (11.3%), Poland (8.8%), Czech Republic (7.3%), EU-28 average (5.3%). The difference was always positive within those countries during selected period and therefore investing in capital make more profit than buying bonds. Hungary exhibited one negative difference in 2009. In Slovenia, there was the difference positive only once in 2014.

V. CONCLUSION

The paper dealt with the main contributor to national performance – sector of non-financial corporations. The main aim was to examine profitability of used capital of non-financial corporations. Selected indicators were applied: gross return on capital employed before taxes (*GROCE*) and net return on equity after taxes (*NROE*).

On average, Slovakia showed the highest value of *GROCE*, then followed by Poland, Czech Republic, Austria, Hungary, EU-28 average and Slovenia. It means, the most profitable used capital is observed in Slovakia.

On average, Austria showed the highest value of *NROE*, then followed by Slovakia, Poland, Czech Republic, Hungary, EU-28 average and Slovenia. It means, the most profitable capital invested is observed in Austria, then in Slovakia.

NROE should be higher than interest rate of lower risk bonds, e.g. government bonds. Positive difference between *NROE* and interest rate were observed in all of the countries except Slovenia. Thus, investing in capital of non-financial corporations' make more profit than buying bonds except in Slovenia.

APPENDIX

TABLE I: GROSS VALUE ADDED SHARES (%)

Country/ Year	Czech Republic	Hungary	Poland	Slovakia	Austria	Slovenia	EU-28 average
2004	59.3	56.6	47.5	50.9	60.2	57.8	57.4
2005	60.6	56.7	47.3	50.0	60.1	57.7	57.4
2006	61.8	58.4	48.5	51.4	60.8	58.3	57.5
2007	62.6	59.5	48.5	52.3	61.2	59.9	57.9
2008	62.6	59.8	48.9	51.7	61.2	59.7	57.9
2009	60.1	59.2	49.4	48.8	60.2	57.1	56.9
2010	60.3	60.0	50.1	50.3	60.3	57.1	57.0
2011	61.4	61.0	50.5	50.8	60.7	57.2	57.5
2012	62.0	61.3	50.7	51.6	61.0	58.2	57.5
2013	62.1	62.2	50.9	51.1	60.7	59.1	57.7
2014	63.1	62.4	51.4	50.7	60.3	60.0	57.6
Average value	61.5	59.7	49.4	50.9	60.6	58.4	57.5

TABLE II: GROCE (%)

Country/ Year	Czech Republic	Hungary	Poland	Slovakia	Austria	Slovenia	EU-28 average
2004	16.9	12.4	18.0	22.5	15.8	10.2	10.4
2005	17.9	11.6	18.6	20.4	15.1	9.6	9.6
2006	18.8	11.6	18.3	21.4	14.5	9.7	9.0
2007	18.5	11.5	15.7	23.9	13.9	9.1	9.0
2008	20.8	12.5	20.5	23.7	15.0	10.0	10.7
2009	17.9	9.5	18.0	19.3	12.9	8.3	8.9
2010	17.4	10.7	18.7	20.9	12.8	8.0	9.0
2011	18.9	11.7	21.4	20.6	13.3	8.5	9.5
2012	17.8	10.3	18.9	20.9	12.6	8.6	8.9
2013	18.3	11.1	18.8	20.7	11.7	9.2	8.6
2014	18.6	11.7	19.5	20.4	11.3	10.1	8.5
Average value	18.3	11.3	18.8	21.3	13.5	9.2	9.3

TABLE III: NROE (%)

Country/ Year	Czech Republic	Hungary	Poland	Slovakia	Austria	Slovenia	EU-28 average
2004	8.7	9.9	10.1	12.9	21.2	3.2	10.0
2005	9.8	9.5	10.3	10.5	19.2	2.1	9.2
2006	11.1	10.9	11.4	14.5	18.7	3.2	8.4
2007	11.8	10.4	9.1	19.8	19.1	3.9	8.5
2008	14.3	10.6	13.2	20.2	19.4	4.6	11.1
2009	10.2	7.4	13.4	13.9	14.7	1.7	8.8
2010	9.1	9.2	16.3	17.3	15.7	1.3	9.1
2011	10.7	10.1	20.5	15.4	17.4	2.3	10.1
2012	11.0	8.6	16.9	15.9	16.4	1.1	8.6
2013	10.7	12.7	16.9	15.5	15.2	2.7	8.1
2014	12.8	11.9	18.0	13.6	14.9	4.8	8.3
Average value	10.9	10.1	14.2	15.4	17.4	2.8	9.1

TABLE IV: LONG-TERM INTEREST RATES (%)

Country/ Year	Czech Republic	Hungary	Poland	Slovakia	Austria	Slovenia	EU-28 average
2004	4.8	8.2	6.9	5.0	4.1	4.7	4.4
2005	3.5	6.6	5.2	3.5	3.4	3.8	3.8
2006	3.8	7.1	5.2	4.4	3.8	3.9	4.1
2007	4.3	6.7	5.5	4.5	4.3	4.5	4.6
2008	4.6	8.2	6.1	4.7	4.4	4.6	4.6
2009	4.8	9.1	6.1	4.7	3.9	4.4	4.1
2010	3.9	7.3	5.8	3.9	3.2	3.8	3.8
2011	3.7	7.6	6.0	4.5	3.3	5.0	4.3
2012	2.8	7.9	5.0	4.6	2.4	5.8	3.6
2013	2.1	5.9	4.0	3.2	2.0	5.8	3.0
2014	1.6	4.8	3.5	2.1	1.5	3.3	2.2
Average value	3.6	7.2	5.4	4.1	3.3	4.5	3.9

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the case of Czech and Slovak Republic (2014) ; The economic freedom effect on corporations' output: the case of European Union (2015). Currently he works as a full-time Assistant Professor at the Silesian University in Opava, School of Business Administration in Karvina, Czech Republic. His research interests are related to economic policy, national competitiveness and national accounts.

Tomas Verner received his MS degree in Economics at the VSB-Technical University of Ostrava, Faculty of Economics, in Ostrava, Czech Republic, in 2006. He is co-author of the book: Economic policy of the Czech Republic after its accession to the European Union and author or co-author of few papers, e.g. Relationship between human capital and economic growth: The case of Austria (2012); Economic performance and the labour market in the context of the economic crisis: experience from the Visegrad four countries (2012); Sector and demand factors contributions to economies' performance: