

Economic Performance: Variability of Businesses within Each Industry and Among Industries

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This article deals with the industry structure of economy as a factor affecting an intensity of economic growth. Shifts in sectoral contributions to gross value added cause two distinctive trends in the development of labour productivity: firstly, by increasing the contribution of the secondary sector to gross value added, which causes the increase of the labour productivity of the whole national economy, and by increasing the contribution of the tertiary sector to gross value added, which causes decline in labour productivity across the whole national economy.

Generally, it is considered that economic characteristics of each industry determine through their consistency economic characteristics of "their" enterprises. The research question is whether for the determination of economic performance and financial health of a company its individual result is more important, or whether these issues are predetermined by its industry classification. The aim is to show the example of the Czech economy, both the development of selected economic characteristics of each industry in the context of the changing sectoral structure of the national economy, and the differences in results of the assessment of financial-economic indicators among six selected industries and selected sample of 72 companies within these industries.

On the basis of available statistical data, there are assessed trends in labour productivity, capital endowment of labour and selected indicators of financial analysis of industry group the "industry" and the "market services" in the Czech Republic, which show the main differences between both segments of the economy. But the focus of the article is on the research aimed at the degree of result differences in assessment of economic performance and financial health within each industry and among industries. Using the data of financial statements of assessed companies, there were calculated both ratio indicators and synthetic indicators of financial analysis and their results were compared for each company within each industry, within companies of the whole sample and of the industry average.

There was assessed variability of indicators within each industry and among industries. Attention was concentrated on 5 ratio indicators of financial analysis (current liquidity, return on costs, costs to revenues ratio, capital turnover and financial leverage) and 2 synthetic indicators – the Altman's model of 2002 and the Czech Gründwald's model of 2001.

The analysis certified that ratio indicators of financial analysis of companies within industries show slightly higher variability than ratio indicators among industries, but the assessment of industry indicators of variability shows their slightly higher values. For the synthetic indicators of financial analysis this issue cannot be concluded clearly because there is the crucial way of construction of these models.

Based on the performed research, there were formulated two other conclusions, both for financial analysis of enterprises, and for guiding regional growth area.

Keywords: *economic sectors, industry structure, indicators of financial analysis, variability within each industry and among industries.*

Introduction

Performance of economy, respectively the question of economic growth and socio-economic development, is one of the main issues of economic theory and practice. Despite the majority positive perception of economic growth as the increase in welfare, (Baier, Dwyer, Tamura, 2006) (Hajek, 2006); (Ciegis, Ramanauskiene, Martinkus, 2009); (Bernatonyte & Normantiene, 2009); (Kraft, Kraftová, 1999) there are also some economists who incite to reflection about when the growth is still beneficial and when it brings disadvantages in terms of the loss of moral values or environmental burden (Mishan, 1994), (Basti & Bayyurt, 2008). Nevertheless, economic growth remains within objectives of national governments and within declared objective of the European Union in the form of so-called Lisbon strategy, with the subtitle for growth and employment (EC Commission, 2007). The Government of the Czech Republic also disposes a strategic document – i.e. The Strategy for economic growth (the Government of the Czech Republic, 2005), which represents the vision of the Czech Republic of becoming "the knowledge – technology based centre of Europe with increasing standard of living and high employment rate". (Government of the Czech Republic, 2005)

In the second half of the last century, the research of economists touched the issues of the influence of sectoral shifts in terms of their contribution to the creation of wealth and employment, hence labour productivity in relation to economic performance (Fuchs, 1965) (Kerner,

1976), (Mervart, 1987). The basic postulate of these shifts has been the growth of labour productivity in the primary sector and mainly in the secondary sector and the leakage in favour of the tertiary sector, which, by its internal diversity, responded to the quantitative and qualitative changes in demand. Examining economic growth, there have been integrating also other issues - influence of dynamically active industries in the context of scientific and technical advance (Baruch, 1997) (Kraftova, Kraft, 2008); (Kurtinaitiene, Gaizutis, 2008); (Boguslauskas & Kvedaraviciene, G. 2009), as well as regional aspects of economic development, which, in a manner of speaking, connects spatial and industry perspective (Porter, 2002) (Kraftová, 2003), (Kraftova, 2008), (Melisek, 2008); Ginevicius, R. and V. Zubrecovas (2009). More topics have recently been appearing there related to the analysis of globalization processes – causes of their origin and their consequences for economic growth (Porter, Schwab, 2008) (Kraft, Kraftova, 2009). The cause and the platform of globalization is a technological advance, however, not "general" but the origin and development of technologies enabling quantitative (territorial, commodity) and qualitative (effectiveness of interconnection) growth of markets. It is concerned with technology advance in transportation industry, informatics and telecommunications above all. These represent the dominant basis for the development of exchange of material and immaterial values, development of markets and especially mobility of production factors in order to maximize economic efficiency of their merger.

The novelty of the study is to focus on the industry structure of economy as a factor affecting the intensity of economic growth, not only due to the various economic characteristics of industries, but due to individual economic subjects (companies) operating in these industries above all. Generally, it is considered that the economic characteristics of industries determine economic characteristics of "their" companies due to their consistency. The research question is concerned with whether for determining the performance and financial health of a company its individual result is more important or whether the results are predetermined by its industry classification. Following this, there can be reasoned about the degree of reliability of industry data used in regional economic analyses.

The main scientific problem is set as reasoning about cohesion (degree of consistency) of indicators of financial health and of economic performance of individual companies within appropriate industries and of performance indicators of industries as a whole. As a result, created wealth is always the sum of outputs of individual economic subjects. It is accepted that the effectiveness in achieving outcomes and productivity of labour or capital productivity differs both among companies from various industries and among companies within each industry. In this context, it is necessary to derive the reliability of aggregate data from the degree of variability in indicators, in relation to the growth models of regions.

The aim of the paper is to point out both the development of selected economic characteristics of industries in the context of the change of sectoral and industry structure of national economy; differences of

results of financial-economic indicators among selected industries and among selected sample of companies within these industries; and to assess the usefulness of the data for modelling of regional economy.

The object of research is the assessment of values of selected financial-economic indicators and their variability for 72 companies from six selected industries (Agriculture /1/; Manufacture of machinery and equipment /2/; Civil engineering /3/; Wholesale and retail /4/; Information and communication activities / 5 /, Accommodation, catering and hospitality /6/). Among assessed indicators are ranked both ratio indicators (current liquidity, return on costs, costs to revenue ratio, financial leverage, capital turnover) and also synthetic indicators assessing the financial health – the Altman Z-score (Altman, 2002), or the solvency of a company – the solvency index (Gründwald, 2001). The hypothesis was formulated as: differences in ratio indicators and in synthetic indicators of financial analysis among industries are bigger than the differences within each industry. In case of confirmation of the hypothesis there can be sufficiently inferred the reliability of aggregate industry data for regional economic analyses.

Using basic methods of the research on the basis of statistical data, there was described the development of sectors and industry groups (industry and market services) in the Czech Republic, including selected economic indicators. Through the use of data of financial statements of assessed companies, there were calculated both ratio indicators and synthetic indicators of financial analysis and their results were compared for both individual companies within each industries, for individual companies of the whole sample and for industry averages. The variability of the indicators was assessed within each industry and among various industries. There were also applied the methods of description, classification and comparison. To assess the impact of industry characteristics and sectoral shifts, there were used mathematical and statistical techniques and the methods of comparison and subsequent generalization.

Changes in sectoral sessions of the national economy in long-term period

At researching the sectoral structure of economy in developed market economies, there can be seen a significant shift in the contribution to gross value added, or to gross domestic product, from the primary and secondary sectors to the tertiary sector during a period of more than 30 years. Such image is submitted by data in Tab. 1 which simply records (by 10 years) the development of the U.S., Japan and Western European countries as three basic economic centres of today's world. It is clear that in the future, there will be necessary to pay much more attention to the BRIC countries - a term introduced by J. O'Neill, i.e. Brazil, Russia, India and China - which can be identified as potential drivers of world growth (Bublíková, 2010). There should be distinguished the absolute level of growth from its dynamics, which is seen for example at comparing the growth of wealth creation among the U.S. – as the world economic leader – and Japan, measured by GDP per capita between 1970 and 2000, when this indicator increased

from 4,878 USD in current prices at 34,280 USD in current prices in the USA – the index of 7.03, while Japan experienced a comparable index of growth of 18.89 - from 1,945 USD in current prices in 1970 at 36,742 USD in current prices in 2000 (Laborsta, 2009).

It is not possible to overlook the fact that the shifts in sectoral contributions to gross value added cause two distinctive trends in the development of labour productivity:

a) by increasing the contribution of the secondary sector to gross value added, or to GDP, there has been growing labour productivity of the whole national economics;

b) by increasing the contribution of the tertiary sector to gross value added, or to GDP, labour productivity of the whole national economics has been declining.

When assessing the correlation between the growth of share of the tertiary sector and the growth of GDP per capita in current prices in the period 1970 – 2000 in the USA and Japan, there is evident very strong positive correlation between both indicators (the U.S. correlation coefficient of 0.99; the correlation coefficient of Japan of 0.95). But there cannot be ignored the fact that the tertiary sector causes the potential of reducing labour productivity, that's why it is necessary to assess the correlation between decline of share of the secondary sector in economy and the creation of wealth with expectations of high negative values of coefficient of correlation. The USA and Japan confirm these expectations: coefficient of correlation of the USA reaches the value of – 0.99 and of Japan reaches the value of – 0.94.

From the perspective of developing stage, the Czech economy was in the sectoral structure of economy at a comparable level as Japan was in 1983 and as the countries of Western Europe were in 1976 (in the U.S. economy, there isn't any comparable year after 1970) in 2000. However, seemingly general trend has quite often its national specificities, as evidenced in Table 1 by means of the comparison of the state of the sectoral structure of the economy of the Czech Republic and of Lithuania in 2000.

Table 1

Development of sectoral contributions to gross value added in the Czech Republic and in Lithuania in 2000 (%)

Country	primary sector	secondary sector	tertiary sector
Czech republic	3.9	38.1	58.0
Lithuania	7.9	29.8	62.3

Source: own elaboration based on (Laborsta, 2009)

There can be seen an anomaly of the Lithuanian economy, where the secondary sector lags behind the dominant primary sector and the tertiary sector (both are characterized by lower labour productivity). Comparing evolution of GDP per capita in the Czech Republic and in Lithuania only in space of ten years (1990 vs. 2000), there can be seen that the influence of the sectoral structure is not inconsiderable. There increased GDP per capita in USD in current prices from 3.595 USD in 1990 to 5.549 USD in the Czech Republic in 2000 – it is the increase of 1.54, while in Lithuania, which has a notably smaller share of the secondary sector, there was a shift of GDP per capita in USD in current prices from 2.681 USD in 1990 to 3.260 USD in 2000 – it is the increase of only 1.22 (Laborsta, 2009).

Trends of economic characteristics of selected sectors in the Czech Republic

Dynamics of the development of industrial structure of economy is reflected in statistical classifications. For example the NACE Rev. 2 (which has been replacing the hitherto used the OKEČ classification in the Czech Republic since 1.1.2008) contains a number of changes: establishment of new divisions which represents new industries and existing industries which increased their economic and social importance; some sections are developed more in detail (ČSU 2009-1). This is associated with the changes in economic characteristics of industries that can be traced in surveys. Unfortunately, statistics are often very inconsistent and a lot of data is not published in the same structure, so that makes the comparison impossible, respectively there are implemented sectoral and industry disaggregation inconsistently, which makes the comparison impossible again.

The Czech Republic has been a part of the group of industrialized states since its inception in 1918. The trend in the medium term of 1995 - 2008 shows – at the growth of absolute values of gross value added - at reducing of the share of the primary sector, which declined to 56% compared to 1995 in 2008, at stagnation in the secondary sector and at a slight increase in the proportion of the tertiary sector with the index of increase of 1.06 during the period (CSO, 2009-1). The overall situation is illustrated in Figure 1.

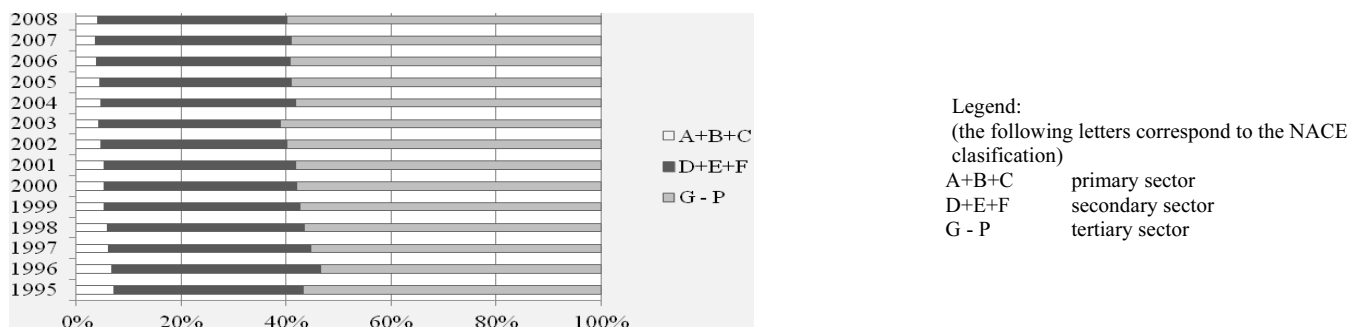


Figure 1. Development of industry groups contribution to gross value added in the Czech Republic

Source: (CZSO, 2009-1)

Using available statistical data, there can be traced a different development of performance characteristics of the Czech economy in the form of labour productivity – and related thereto, respectively the productivity conditioning – capital endowment of labour in industries and market services, in the last decade, as shows Figure 2 and 3. They show different trends: a slight decline in labour

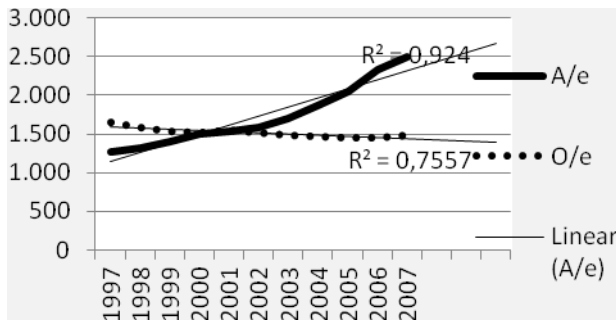


Figure 2. Development of labour productivity (O/e) and of capital endowment of labour (A/e) in the Czech industry
Source: (CZSO, 2009-2)

In Table 2, there are selected only 3 years of analyzed industry groups for illustration which record four selected economic indicators, namely in the field of

productivity, along with dynamically increasing capital endowment of labour in the Czech industry, then the growth of both observed indicators in market services where dynamics of labour productivity growth surpasses the growth in capital endowment of labour. In Figures 2 and 3 there are also indicated linear trends (t +3) with a degree of reliability.

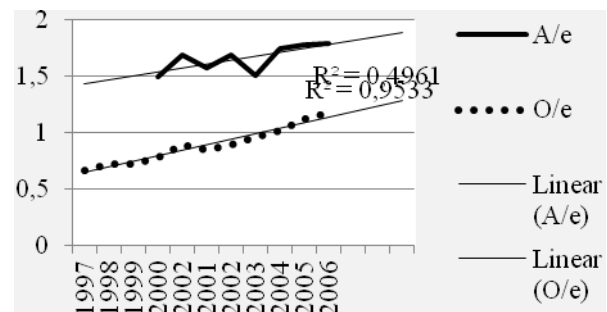


Figure 3. Development of labour productivity (O/e) and of capital endowment of labour (A/e) of the Czech market services
Source: (CZSO, 2009-3)

profitability return on costs, costs to revenues ratio; in the field of financing it was financial leverage and in the field of activity the capital turnover.

Table 2

Comparison of selected economic indicators of industry and market services in the Czech republic in 2000, 2003 and 2006

Indicator	Industry group	2000	2003	2006	2006/2000	Industry/Market services (2000)	Industry/Market services (2003)	Industry/Market services (2006)
ROC	Industry	0.02	0.04	0.06	3.00	0.44	0.60	0.63
	Market services	0.05	0.07	0.09	2.07			
E/R	Industry	0.98	0.96	0.94	0.96	1.03	1.03	1.03
	Market services	0.96	0.93	0.91	0.96			
FL	Industry	2.27	2.04	1.91	0.84	0.73	0.69	0.77
	Market services	3.12	2.95	2.47	0.79			
R/A	Industry	1.18	1.20	1.30	1.10	1.55	1.53	1.55
	Market services	0.77	0.78	0.84	1.09			

Source: own elaboration based on (CZSO, 2009-2) and (CZSO, 2009-3)

Legend: ROC return on costs (EAT/total expenses)
E/R expenses to revenues ratio (total expenses/total revenues)
FL financial leverage (total capital/equity)
R/A capital turnover (total revenues/total capital)

Development in both groups of industries can be regarded as positive - return on costs and capital turnover was growing, while share of costs and revenues was decreasing. Decline in financial leverage (i.e. a smaller proportion of foreign capital to finance) cannot, without further analysis of the relation between ROA and interest rate, be clearly interpreted. Comparison of characteristics among industries and market services in the last three columns of Table 2 show higher value of return on the costs in market services but with less dynamic growth than it is seen in industries. Almost the same level and development have share of costs and revenues. While in industries there was an equalizing involvement of equity and foreign capital (value of oscillation parameters around 2), in market

services foreign capital in financial resources dominates. Capital turnover is about 1.5 times higher in industry than in market services.

Assessment of differences among industries and of homogeneity within each industry of selected economic characteristics of companies

Specifics of industries in terms of their financial-economic performance are significant for both - allocation of capital of individual investors and for achieving the required performance parameters of regional economy or of the whole national economy. To assess the degree of diversity of selected parameters among various subjects

within each industries and among industries there were selected ratio indicators of financial analysis in the field of liquidity, profitability, activity and financing, namely:

- Current liquidity (L3 = ratio of current assets, incl. deferred assets and current liabilities, incl. deferred liabilities);
- Return on costs as the most exacting indicator of profitability (ROC = profit after tax to total costs ratio);
- Costs to revenues ratio to assess a distance from the tipping factor ψ (E/R = expenses to revenues ratio);
- Turnover of capital (R/A = total revenues to average state of assets ratio);
- Financial leverage (FL = total capital to equity ratio).

Ratio indicators were supplemented by calculations and by comparing two synthetic indicators, by the Altman Z-score of 2002 (Altman, 2002) and by the Grünvald's index of creditworthiness, 2001 (Grunvald, 2001), (Sedlacek, 2009).

The total sample of 72 companies were evenly divided into 6 branches of the NACE classification, namely:

- A - agriculture, forestry and fisheries (subsections 01, 02, 03) 11 businesses;
- C - manufacturing (subsections 28, 29, 30) 13 businesses;
- F - construction (subsections 41, 42, 43), 12 businesses;
- G - wholesale and retail (subsection 45, 46, 47) 13 businesses;
- I - accommodation, catering and hospitality (subsections 55, 56), 12 businesses;
- J - information and communication activities (subsection 61, 62, 63) 11 businesses.

There were chosen medium and large enterprises employing more than 50 people. The analysis covered the year 2007, i.e. the year unaffected by the global financial and economic crisis. At calculating the ratio indicators, data were tested for presence of outliers using the Grubbs' test at a significance level of 5%, observed extreme values were omitted of the calculation. Results of the ratio indicators of financial analysis are shown in Table 3, which contains both values for industry groups, i.e. values of average (\emptyset), minimum (min), maximum (max); and variation margin (vm), and aggregate values of the whole sample of surveyed enterprises.

Table 3

Values of selected ratio indicators of financial analysis based on industries

NACE sector	L3				ROC				E/R				R/A				FL			
	\emptyset	min	max	vm	\emptyset	min	max	vm	\emptyset	min	max	vm	\emptyset	min	max	vm	\emptyset	min	max	vm
A	2.96	1.32	4.96	3.64	0.05	0.00	0.12	0.12	0.96	0.90	1.00	0.10	0.94	0.15	3.19	3.04	1.73	1.07	2.79	1.72
C	1.98	0.23	5.45	5.22	0.05	-0.02	0.16	0.18	0.95	0.86	1.02	0.16	1.65	1.21	2.79	1.58	2.02	1.20	3.68	2.48
F	1.57	1.04	3.68	2.64	0.05	0.00	0.14	0.14	0.96	0.87	1.00	0.13	1.35	0.34	1.91	1.57	3.13	1.56	4.17	2.61
G	1.27	0.39	2.36	1.97	0.03	-0.01	0.13	0.14	0.97	0.88	1.01	0.13	2.17	1.25	3.57	2.32	2.60	0.59	6.10	5.51
I	1.81	0.76	4.28	3.52	0.03	-0.20	0.16	0.36	0.98	0.86	1.25	0.39	1.04	0.16	2.27	2.11	2.16	1.14	5.16	4.02
J	1.67	0.78	4.14	3.36	0.08	-0.06	0.35	0.41	0.94	0.74	1.06	0.32	1.39	0.37	2.65	2.28	1.84	1.18	2.85	1.67
total	1.87	0.23	5.45	5.22	0.05	-0.20	0.35	0.55	0.96	0.74	1.25	0.51	1.43	0.15	3.57	3.42	2.25	0.59	6.10	5.51

Source: own elaboration based on financial statements of selected businesses

The highest range of variation of the assessed sample of 72 enterprises has financial leverage followed closely by current liquidity. A significant value of variability, exceeding the value of 3.00, has turnover of capital, below the value of 1.00 remains range of variation of return on costs and of share of costs and revenues. Because the range of variation as a differential

value is too tied to the realized absolute values, there were calculated standard deviation and variation coefficient to achieve greater explanatory power of analysis results both within each industry and within the whole sample of enterprises. The result of this assessment shows Figure 4.

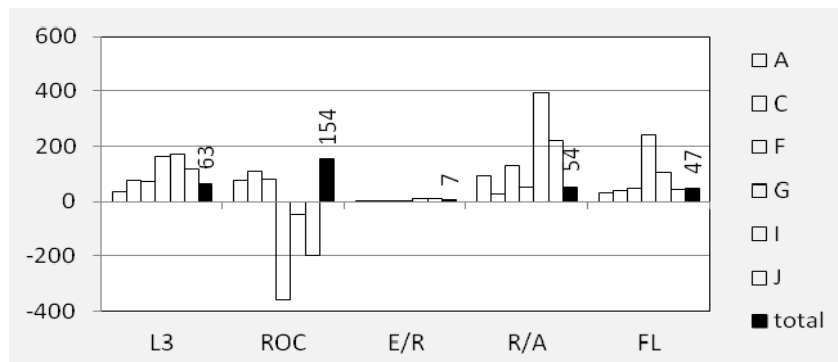


Figure 4. Variation coefficients of values of ratio indicators of financial analysis of selected industries and of the whole sample

Data of Figure 4 and of Table 3 show a high variability of data not only within each industry but also among various industries, there can even be submitted that a degree of variability differs also within an assessment of various indicators of financial analysis.

To illustrate the impact of diversity of assessment of ratio indicators of enterprises and industries on the overall performance, there was assessed the creditworthiness, respectively assessed the financial health of businesses using two above mentioned models. Comparison of results shows Figure 5.

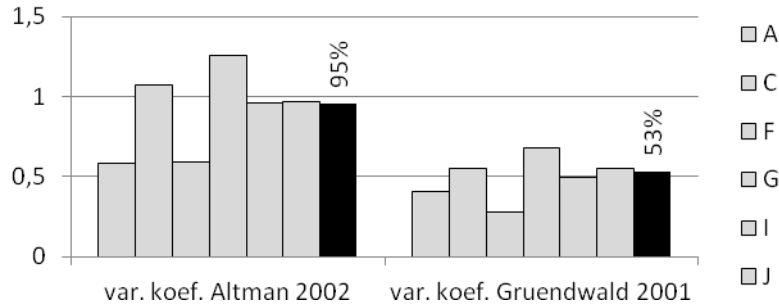


Figure 5. Variation coefficients of values of synthetic indicators of each industry and of the whole sample

From figure 5, we can deduce that a degree of variability (here measured by the variation coefficient) of synthetic indicators depends not only on their structure, but also on industry, whose companies are assessed. The Altman model achieves nearly double variability of results of the total sample. The Altman model has a minimum variation coefficient in the A industry (58 %, i.e. 37 % less than the overall indicator), the maximum variation coefficient in the G industry (126 %, i.e. 31 % more than the overall indicator). In addition, the Grünwald's model has the lowest variation coefficient in the F industry (28 %, i.e. 25 % less than the overall indicator), the highest variation coefficient in the G industry – similarly as the Altman model - (68 %, i.e. 15 % more than the overall indicator).

Conclusions

For the assessment and modelling of economic growth of economies, no matter if national or regional, one of the determining factor of performance is sectoral, respectively industrial structure. There can be traced some trends in aggregated data, as it is evidenced by means of data about share of sectors in national economies, as well as data about development of capital endowment of labour, labour productivity, return on costs, costs to revenue ratio, financial leverage and capital turnover in industries and market services in the Czech Republic in the last ten years.

Variability of results of assessed ratio indicators of financial analysis within each industry shows different results for different parameters, as Table 4 shows.

Table 4

Overview of variation coefficients values of ratio indicators results of financial analysis (%)

	A	C	F	G	I	J	Whole sample	Cross-industry result
L3	36	73	71	163	172	117	63	67
ROC	76	108	81	-358	-46	-196	154	-421
E/R	3	5	4	4	11	12	7	8
R/A	92	26	130	53	394	221	54	68
FL	31	43	47	242	105	44	47	34

Source: own elaboration

In Table 4, there are tinged cells in which values of variability are shown lower than the aggregate value of variation coefficient of the whole sample of companies is. It is obvious that the variability of current liquidity within each industry is higher than value of the whole sample of enterprises in 5 cases, capital turnover has higher variability within each industries in 4 cases, variability of financial leverage is in a half of industries lower and in a half of industries higher than variability of the whole sample, both indicators of profitability, in contrast, have a lower variability than the whole sample

in 4 cases. On the other hand, there cannot be ignored that the values of variation coefficient for the share of costs and revenues are in units, respectively in tens, while return on costs in tens or even in hundreds. (Negative values of variation coefficients of ROC cause negative value of the average ROC).

The situation can be even sketched by the comparison of the average values of ratio indicators and of synthetic indicators, calculated values both from each industry and from the whole sample of enterprises without sectoral distinction – see Table 5.

Comparison of industry average values of results and of the whole sample

	Industry average	Average of the whole sample
L3	1.32	1.87
ROC	-0.02	0.05
E/R	0.88	0.96
R/A	0.79	1.43
FL	1.37	2.25
<i>Altman's model</i>	3.93	3.89
<i>Grünwald's model</i>	1.44	1.44

Source: own elaboration

Basing on the data from Table 5, it can be concluded that average values of ratio indicators of each sector reach lower values than the calculated average value of the whole sample of enterprises without sectoral distinctions is. By contrast, the value of a synthetic indicator is higher for the industry average (the Altman's model) or the same (the Grünwald's model).

Variation coefficients of ratio indicators within each industry are, by contrast, higher in industries – with the exception of financial leverage which has a lower variability. The Altman model has a lower variation coefficient (26 % versus 95 % of the cohort); the Grünwald's model achieves the same variability in both cases (53 %).

From this research follows:

a) variability of ratio indicators within each industry, in comparison with variability of the whole sample of industry undifferentiated businesses, differs by type of indicator, respectively according to the field of financial analysis;

b) variability of results within each industry is in more than half cases higher than the results without industry distinction;

c) variability of results of ratio indicators is in most cases slightly higher among industries (an exception is ROC, whose variability is much higher among industries, and financial leverage whose variability is lower among industries);

d) for synthetic indicators, a definite conclusion cannot be formed because it depends on structure of the model.

About the hypothesis of higher differences of ratio indicators and of synthetic indicators of financial analysis among various industries than within each industries can be stated:

- I. For ratio indicators from financial analysis results that industry - aggregated companies show slightly higher variability than industry-no aggregated enterprises but at assessing industry indicators tend their variability to slightly higher values.
- II. For synthetic indicators of financial analysis results that there is not possible to conclude this issue clearly because the structure of these models is crucial.

From the introduced research there can be formulated two other conclusions, both for the field of financial analysis of enterprises, and for the field of guidance of the regional growth. A degree of variability of indicators within industries and among industries can be used in considering the portability of so-called standard values at interpreting the results of financial analysis of a concrete company. At examining a regional economy, it is necessary to take into account that aggregate values apply to larger units. The lower the level of modelling or the more detailed indicators are, the lower reliability of aggregated data is.

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Ekonomiškai veikla: verslo įvairovės kėkvienoje pramonės srityje ir daugelyje sričių

Santrauka

Straipsnyje aptariama ekonomikos pramonės struktūra kaip veiksnys, kuris daro įtaką ekonominio augimo intensyvumui. Dėl pokyčių atskiruose sektoriuose atsiranda dvi labai ryškios kryptys darbo našumo srityje. Pirma, didinamas antrinio sektoriaus įnašas į pridėtinės vertės didėjimą, kas sukelia

visos nacionalinės ekonomikos darbo našumą, antra didinamas trečiojo sektoriaus įnašas į pridėtinę vertę, kas sukelia darbo našumo mažėjimą visoje nacionalinėje ekonomikoje.

Taigi tariama, kad kiekvienos pramonės šakos ekonomines charakteristikas lemia tų įmonių ekonomikos charakteristikų atitikimas. Tyrimo klausimas – ar ekonominės veiklos apibrėžimui ir finansiniam kompanijos pajėgumui svarbesni jos individualūs rezultatai, ar šias problemas lemia jos pramonės suskirstymas. Tikslas – pateikti čekų ekonomikos pavyzdį: tiek kiekvienos pramonės ekonominių charakteristikų plėtojimąsi nacionalinės ekonomikos besikeičiančios struktūros kontekste, tiek ir finansinių–ekonominių rodiklių įvertinimo rezultatų skirtumus pasirinkus šešis pramonės ir 72 kompanijų pavyzdžius.

Remiantis statistiniais duomenimis buvo įvertintos darbo našumo kryptys, įdėjiniai ir pramonės finansinės analizės pasirinkti rodikliai, kurie rodo pagrindinius skirtumus tarp abiejų ekonomikos segmentų. Tačiau straipsnyje aptartas tyrimas, kuris skirtas analizuoti rezultatų skirtumus vertinant ekonominę veiklą ir finansinį pajėgumą kiekvienos pramonės srityje ir atskirose pramonės srityse.

Remiantis įvertintų kompanijų finansiniais įvertinimais, buvo apskaičiuoti tiek santykio rodikliai, tiek finansinės analizės duomenys ir palyginti kiekvienos pramonės srities kompanijos duomenys. Buvo įvertinta rodiklių įvairovė kiekvienos pramonės srityje ir įvairiose pramonės srityse. Dėmesys skirtas finansinės analizės 5 santykių rodikliams ir 2 sintetiniams rodikliams – Altmano 2002 metų modeliui ir Čekijos Grunevaldo 2001 metų modeliui aptarti.

Atlikus analizę paaiškėjo, kad kompanijų finansinės analizės rodikliai rodo šiek tiek didesnę įvairovę negu atskirų pramonės sričių rodikliai. Tačiau įvertinus pramonės rodiklių įvairovę pateikiamos jų didesnės reikšmės. Finansinės analizės sintetiniai rodikliai negali būti tik vienintelė aiški išvada, nes yra ir kitas būdas, kaip sudaryti šiuos modelius.

Remiantis šiuo atliktu tyrimu, buvo suformuluotos kitos dvi abiejų įmonių finansinių analizių ir regioninio plėtojimosi išvados. Straipsnio tikslas – parodyti tiek pramonės šakų tam tikras charakteristikas, tiek nacionalinės ekonomikos pramonės struktūrą. Taip pat pasirinktų pramonės šakų ir tam tikrų kompanijų, esančių toje pramonės šakoje finansinių ekonominių rodiklių skirtumas ir įvertinti šių duomenų naudingumą kuriant regioninę ekonomiką.

Tyrimo objektas – parinkti finansinių ekonominių rodiklių dydžio įvertinimas ir jų įvairovė 72 šešių parinktų pramonės šakų (mašinų ir įrengimų gamybos; žemės ūkio; civilinės statybos; didmeninės ir mažmeninės prekybos; informacijos ir komunikacijos; apgyvendinimo, maitinimo ir priėmimo kompanijose.

Tarp įvertintų rodiklių yra ir santykio indikatorius (einamasis likvidumas, sąnaudų grąža, finansinis svertas, kapitalo apyvarta), ir sintetiniai rodikliai parodantys finansinį pajėgumą – likvidumo indeksas. Buvo suformuluota hipotezė: atskirų pramonės šakų santykio rodikliai ir sintetiniai finansinės analizės rodiklių skirtumai yra didesni negu kiekvienos pramonės srities rodiklių skirtumai. Hipotezei patvirtinti galima remtis pramonės patikimumo regioninių analizių duomenimis.

Taikant pagrindinius tyrimo metodus, remiantis statistiniais duomenimis, buvo pateikta, kaip plėtojosi sektoriai ir pati pramonė Čekijos Respublikoje. Remiantis parinktų kompanijų finansiniais duomenimis, buvo apskaičiuoti tiek santykio rodikliai, tiek sintetiniai rodikliai, gauti atliekant finansinę analizę. Buvo lyginami tiek individualių kompanijų rezultatai kiekvienos pramonės šakos viduje, tiek viso pavyzdžio individualių kompanijų rezultatai. Buvo įvertintas rodiklių kintamumas pačioje pramonės srityje ir atskirose pramonės šakose. Buvo taikomi aprašymo, klasifikavimo ir lyginimo metodai. Siekiant įvertinti pramonės šakos charakteristikas ir sektorių kaitą, buvo taikyti matematiniai ir statistiniai palyginimo ir apibendrinimo metodai.

Tam, kad būtų įvertintas ekonomikų, tiek nacionalinis, tiek regioninis augimas, taikomas svarbiausias veiklos veiksnys, t. y. pramonės sektoriaus ir struktūros aspektas. Galima rasti ir sudėtinų duomenų krypčių, pvz., sektorių dalies dydį nacionalinėje ekonomikoje bei duomenis apie kapitalo augimą ir jo panaudojimą darbo našumo srityje, finansinius svertus ir kapitalo apyvartą pramonės šakose, rinkos paslauga Čekijos Respublikoje per paskutinius dešimt metų.

Gavus įvairius rezultatus kiekvienoje pramonės srityje, gaunami ir įvairūs parametrai. Kai kurie kintamieji dydžiai yra žemiau nei kitimo koeficientas, kuris apibūdina visą kompaniją. Einamasis likvidumas kiekvienoje pramonės šakoje kinta labiau nei įmonėse (5 atvejai), kapitalo apyvartos kitimo laipsnis kiekvienoje pramonės šakoje (4 atvejai) yra didesnis, finansinės dalies kitimas pusėje pramonės šakų yra žemesnis ir pusėje aukštesnis negu viso pavyzdžio kitimas. Priešingai, abu pelno rodikliai turi žemesnį pakitimą negu visas pavyzdys (4 atvejai). Kita vertus, negalima nekreipti dėmesio į tai, kad sąnaudų ir įplaukų kitimo koeficiento dydžiai yra dešimtys, o sąnaudų pelningumas – dešimtys ir net šimtai.

Situacija pateikiama net lyginant santykio rodiklių vidutiniais dydžiais ir sintetiniams rodikliams, apskaičiuotais tiek iš kiekvienos pramonės šakos, tiek iš bendro įmonių pavyzdžio, neskirstant į sektorius. Galima daryti išvadą, kad kiekvieno sektoriaus priklausomybės rodiklių vidutinių dydžių reikšmės yra mažesnės negu bendro pavyzdžio vidutinių dydžių, nesiskirstant į atskirus sektorius. Sintetinio rodiklio dydis yra aukštesnis negu pramonės vidurkis arba – toks pats.

Kitimo koeficientų santykio rodikliai kiekvienoje pramonės šakoje yra didesni, išskyrus finansinę dalį, kurioje yra žemesnis kitimo laipsnis.

Tyrimas parodė:

- priklausomybės rodiklių skirtumas kiekvienoje pramonės šakoje, palyginti su visumos duomenimis, skiriasi savo rodiklių tipu, t. y. pagal finansinės analizės sritį;
- rezultatų įvairovė kiekvienoje pramonės srityje daugiau kaip pusėje atvejų yra geresnė negu tie rezultatai, kurie susiję su dydžiais, neišskiriant pramonės;
- santykio rodiklių kitimo rezultatai yra daugeliu atvejų geresni pramonės srityse (išimtis –ROC);
- sintetiniams rodikliams negalima nurodyti išvados, nes tai priklauso nuo modelio struktūros.

Nurodant hipotezę, susijusią su santykio rodiklių didesniais skirtumais, ir finansinės analizės sintetinius rodiklius, galima teigti:

- jungtinėse pramonės kompanijose yra šiek tiek didesnė įvairovė negu kitose įmonėse, tačiau esant tam tikriems aspektams gaunami geresni vertinimai jiems pasikeisti;
- finansinės analizės sintetiniai rodikliai rodo, kad negalima formuluoti aiškios išvados apie šią problemą, nes čia svarbiausia šių modelių struktūra.

Atlikus tyrimus, galima formuluoti dvi kitas išvadas, kurios susijusios su įmonių finansine analize ir padėti regionams augti. Rodiklių kitimo laipsnis pačiose pramonės šakose ir tarp jų gali būti panaudotas svarstant vadinamųjų standartinių dydžių perkėlimą, kai aptariami konkrečios kompanijos finansinės analizės rezultatai. Nagrinėjant regioninę ekonomiką, reikia atsižvelgti, kad jungtinės vertybės priklauso didesniems padaliniais. Kuo žemesnis modeliavimo lygis arba detalesni rodikliai, tuo žemesnis jungtinių duomenų patikimumas.

Raktažodžiai: *ekonominis sektorius, pramonės struktūra, finansinės analizės rodikliai, kintamumas pačioje pramonės srityje ir atskirose pramonės šakose.*

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