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The role and importance of the small business sector in the economic development of the Mazowieckie Province

Rola i znaczenie sektora małych przedsiębiorstw w rozwoju gospodarczym województwa mazowieckiego

Abstract: *The goal of the study is the examination of the impact of the small business sector on the local economic growth in the Mazowieckie Province. The research proves that the increase in the numbers of operating and newly registered small enterprises contributes positively to the county economic development measured with the total value and the per capita value of traded production generated by locally operating enterprises, as well as the number of their employees. Additionally the increase in realized capital expenditures and the province GDP positively impact the county's economic development. The study is based on data from the Local Data Bank of GUS and covers all counties (excluding the capital city of Warsaw) in the province during the period 2003-2014.*
Keywords: small business sector, regional development, the Mazowieckie Province

Streszczenie: *Celem artykułu jest analiza wpływu sektora małych przedsiębiorstw na rozwój regionalny na przykładzie województwa mazowieckiego. Badania potwierdzają, że wzrost liczby działających i nowo zarejestrowanych małych przedsiębiorstw pozytywnie przyczynia się do rozwoju gospodarczego każdego powiatu, mierzonego produkcją sprzedaną na jednego mieszkańca i całkowitą produkcją sprzedaną, wytworzoną przez działające w nim przedsiębiorstwa, jak również na liczbę ich pracowników. Ponadto stwierdzono, że wzrost nakładów inwestycyjnych i PKB województwa mają pozytywny wpływ na rozwój gospodarczy powiatów. Badania oparte są na danych pochodzących z Banku Danych Lokalnych GUS i dotyczą wszystkich powiatów województwa (z wyjątkiem Warszawy) w latach 2003-2014.*
Słowa kluczowe: sektor małych przedsiębiorstw, rozwój regionalny, województwo mazowieckie

Introduction

The economic development of the country significantly depends on the development of regional economies, which is largely based on the sector of small and medium-sized enterprises (SMEs). Especially in less urbanized areas SMEs, are the largest employers. Small businesses are also responsible for a significant portion of the production generated in the region. Development in entrepreneurship is usually carried by running private firms operating primarily within their own regions. Growing entrepreneurial skills foster innovation and help

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regions to develop. Baumol[2] considers small businesses as a key player stimulating regional growth, but also recognizes that the economy cannot be explained solely as a combination of production factors. In achieving higher economic performance, human creativity and entrepreneurship are particularly important, they enable to structure the macroeconomic environment of the region in an effective way, which is conducive to obtaining final positive financial results. Therefore, the proper combination of institutional economic conditions and human entrepreneurial skills is the fundamental base for the successful growth of the local economy.

Strong positive correlation between development of SMEs and regional economic growth find Cravo et al.[3] in Brazil in 1980-2004. They also observe that for the SMEs expansion, human capital is an even more important factor than the scale of the entire SME sector in a given country or region. Lepojevic et al.[4], examining the impact of entrepreneurship on the GDP growth in 22 developed and developing countries at the turn of the 1990s and 2000s suggest that entrepreneurship is a factor of increasing importance for regional development. Its positive impact on the economy is more pronounced in developed countries than in developing countries. They also argue that the regions providing more incentives to SMEs could expect dynamic growth and improvement in their economic competitiveness.

The goal of this study is to present results of the examination of validity of the hypothesis indicating that an increase in the number of already operating and the number of newly registered small enterprises positively contribute to the county's economic development, which is measured with the values of the total and per capita production generated by enterprises located there, and the number of employees.

The study uses panel data on sales volumes, the labor market, and the structure of business entities in all counties of the Mazowieckie Province (hereinafter: Mazowieckie) in 2003-2014. The capital city of Warsaw is excluded from the sample due to the high concentration of central government offices and the Polish headquarters of international corporations which changes the common relationship between the SME sector and the local economic growth. The annual data come from the Local Data Bank of the Central Statistical Office (GUS). The econometric model of a panel regression with fixed effects is estimated using the statistical programme – STATA.

The remaining part of the study has the following structure. The next section presents conclusions drawn from the literature review on conditions of the regional economic growth, the following presents the economic situation of Mazowieckie, and then the data and methodology used in the study and discussion of results. The whole study is summarized in the conclusions.

[2] M. Baumol, *Entrepreneurship in Economic Growth*, "American Economic Review" 1968, vol. 58(2), p. 64-71.

[3] T.A. Cravo, B. Becker, A. Gourlay, *Regional Growth and SMEs in Brazil: A Spatial Panel Approach*, "Regional Studies" 2015, vol. 49(12), p. 1995-2016.

[4] V. Lepojevic, M. Ivanovic Djukic, J. Mladenovic, *Entrepreneurship and economic development: a comparative analysis of developed and developing countries*, "Facta Universitatis. Series: Economics and Organization" – University of Nis 2016, vol. 13(1), p. 17-29; T.A. Cravo, B. Becker, A. Gourlay, *Regional Growth and SMEs in Brazil: A Spatial Panel Approach*, "Regional Studies" 2015, vol. 49(12), p. 1995--2016.

The SME sector and regional development

A considerable number of studies on the economic development have found a positive relationship between the economic growth and the state of entrepreneurship, the number of operating enterprises and the value of the SME sector turnover. Such conclusions are valid, both at state and regional level. Hart and Hanvey[5] examining contribution of newly established small businesses to the employment growth in the three regions of the UK in the 1980s state that small businesses are of particular importance for this process. They, however, point out a certain instability in this phenomenon. Periods of significant employment growth in SMEs are followed by periods of dismissals. They justify the lack of long-term stability on the correlation between SMEs development and the regional development with an inappropriate promotion of entrepreneurship by local governments and an incorrect strategy for development of the SME sector.

Callejon and Segarra[6] analyzing the phenomenon of creating new and closing failing companies in particular regions and sectors of the Spanish economy notice a considerable variation in the number of active small manufacturing companies. They believe, however, that such variation has a positive impact on the economic development of regions and sectors where the process takes place. Assuming that new businesses are mostly users of modern technology, such phenomenon could lead to the entry of efficient new companies into the market and the simultaneous elimination of non-competitive enterprises unable to apply modern technology in their operations and unable to successfully compete on the market. On the other hand Folster[7] notes that in most countries central and local governments support entrepreneurship and promote the formation of new companies. They expect that such a policy would increase the level of employment and self-employment in areas under their jurisdiction. Such a relationship was confirmed for a sample of Swedish companies operating during the period 1976-1995. The strategy of the creation of new small businesses positively impacted employment, and especially self-employment within the entire country and individual regions.

Audretsch and Keilbach[8] examining the conditions for the regional development find that entrepreneurial capital plays an important role in this process. They note that such capital positively impacts the performance of the regional economy measured by the value of labour productivity and the pace of its growth. They believe that the entrepreneurial attitude is better recognized in larger and more urbanized areas. Using regression of the production function they confirm that entrepreneurial capital has a positive and significant impact on the performance of the region. Urbanized centres provide the best environment for business development. Residents of such areas are positively geared toward innovation and more willing to take action marked by significant investment risk.

[5] M. Hart, E. Hanvey, *Job Generation and New Small Firms: Some Evidence from the late 1980s*, "Small Business Economics" 1995, vol. 7(2), p. 97-109.
[6] M. Callejon, A. Segarra, *Business Dynamics and Efficiency in Industries and Regions: The Case of Spain*, "Small Business Economics" 1999, vol. 13(4), p. 253-271.
[7] S. Foelster, *Do Entrepreneurship Create Jobs?*, "Small Business Economics" 2000, vol. 14(2), p. 137-148.
[8] D.B. Audretsch, M. Keilbach, *Entrepreneurship Capital and regional Growth*, "The Annals of Regional Science" 2005, vol. 39(3), p. 457-469.

Similar conclusions were drawn by Audretsch and Fritsch[9] who state that in the 1990s regions with higher levels of newly opened businesses recorded higher than average economic growth.

Holtz-Eakin and Kao[10] studying the relationship between productivity (defined as the state GDP per one employee) and entrepreneurship (defined as a ratio of the number of those newly opened by the number of enterprises already operating in a given year) in the 1990s in individual US states suggest that the level of entrepreneurship is positively correlated with the productivity growth in the state. This means that a greater number of companies in the state contribute positively to the improvement of its competitiveness and generated GDP growth.

Mueller[11] indicates the importance of the entrepreneurial environment for regional development. Comparing the significance of other factors of production, i.e. physical capital or labour he notes that knowledge and technological skills are one of the most important factors for regional development. He also observes that the highest growth could reach regions which recorded the highest rates of newly opened technology companies – start-ups.

Summing up, the conclusions of existing research could lead to the statement that entrepreneurship, represented by the creation of new enterprises and closing uncompetitive ones, positively impact the dynamics of economic development. This relationship is more recognized in countries and regions with a higher level of technological development and in more urbanized areas.

The macroeconomic situation of the Mazowieckie Province

The Mazowieckie Province is located in the central part of Poland and its capital city is the country's capital – Warsaw. It consists of 42 counties, of which 5 have the status of a city. In 2015 the population of the province amounted to 5.3 million people, i.e. 14% of the total country's population. Most of its residents live in urban areas (64% compared to 60% in Poland) (Fig. 1). The population of the province is relatively young. In 2015 the average age of approximately 21% of the population did not exceed 19 years (20% in Poland). In contrast to the whole country, in 2015 the number of the region's population increased by 2.4 thousand making a positive natural increase of 0.05% compared to the downward trend recorded in the whole country of -0.07%. This indicates that the human potential of the region is significant and tends to increase, which gives better prospects for economic development.

Households in Mazowieckie achieve the highest incomes in the country. Their strong purchasing potential allows the companies operating there to achieve greater sales of consumer goods and services. In 2015 the average monthly income per capita was the highest in the country and amounted to 1756 PLN, which accounted for 127% of the national average. Mazowieckie is

[9] D. Audretsch, M. Fritsch, *Growth Regimes over Time and Space*, "Regional Studies" 2002, vol. 36(2), p. 113-124.
[10] D. Holtz-Eakin, Ch. Kao, *Entrepreneurship and Economic Growth: The Proof is in Productivity*, Maxwell School – Center for Policy Research, Working Paper no. 50, 2003.
[11] P. Mueller, *Exploiting Entrepreneurial Opportunities: The Impact of Entrepreneurship on Growth*, "Small Business Economics" 2007, vol. 28(4), p. 355-362.

leading in terms of other items of household revenues and expenditures. Total expenditure per capita amounted to 1370 PLN, i.e. 126% of the national average, including expenditure on consumer goods and services of 1305 PLN, i.e. 125% of the national average. The average expenditures on health and education were the highest in the country and equaled, respectively, 77.28 and 24.55 PLN, which represent 134% and 220% of the national average.

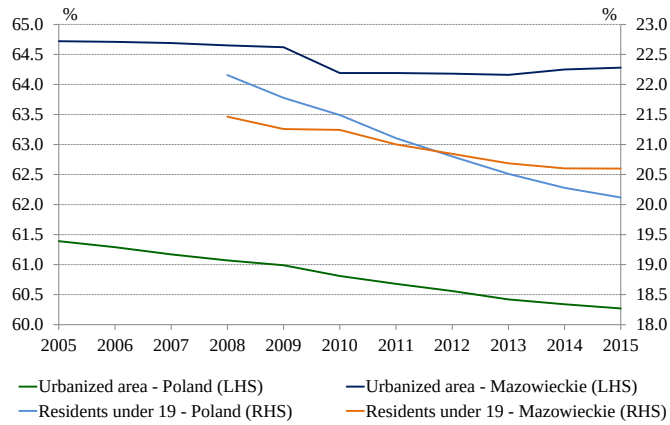

Fig. 1. The share of residents of urbanized areas (LHS) and the share of residents up to 19 years old in the total number of residents (RHS)
Source: own elaboration based on GUS data.

Enterprises operating in Mazowieckie generated the highest value of revenue. However, not all indicators representing efficiency of their operations are among the highest in the country. In 2015 the total revenue of companies registered in the province exceeded 835 billion PLN, which accounted for 33% of the revenue of companies across the country. Profit before tax and net profit amounted to 35.6 and 29.7 billion PLN, this placed the sales profitability ratios (i.e. 4.3% and 3.6%) only at the national average level. The shares of enterprises (in terms of number and sales) showing a positive annual net income were lower than the national average. In 2015 about 79.7% of all enterprises operating in the province achieved net profit and revenue obtained by them accounted for 84.8% of sales of all businesses operating in the province. In Poland, these rates were higher and amounted respectively to 82.8% and 85.6%. This means that the costs of doing business in Mazowieckie are higher than in the rest of the country. In 2015 the operating costs amounted to 800 billion PLN and accounted for 33.2% of these costs in the country, i.e. by 0.1 percentage point higher than in the case of revenue. Mazowieckie provides the largest contribution to the country's GDP. In 2013 its value amounted to 366 billion PLN which means 22.1% of the country's GDP. The GDP annual growth rate equaled 2.7% and was by 1 percentage point higher than the average in the country (Fig. 2).

The increasing value of GDP at a relatively constant number of the population means that the GDP per capita also has an upward trend. In 2013 this index increased by 2.4% and reached a level of 69 thousand PLN (in Poland respectively 1.8% and 43 thousand PLN). Consequently higher incomes

might create more favourable conditions for enterprises operating in the province compared to the rest of the country.

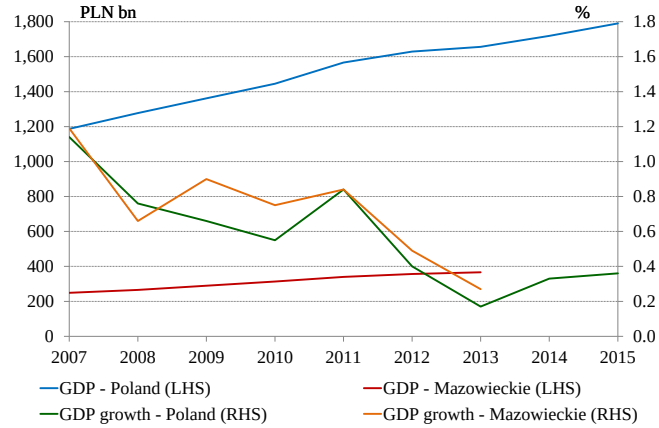

Fig. 2. GDP and the GDP growth in Poland and the Mazowieckie Province
Source: own elaboration based on GUS data.

Advantageous economic situation of Mazowieckie is conducive to the improvement of the conditions of the labour market. In 2015 the registered unemployment rate was one of the lowest in the country and amounted to 8.4% (9.8% in Poland). The Labour Force Survey (LFS) reports the unemployment rate at 6.4%, including 6.6% for men and 6.2% among women (in Poland respectively: 7.5% and 7.3% and 7.7%). Similar to the entire country, in Mazowieckie higher percentage of people are employed in cities than in rural areas. According to LFS in 2015 the labor participation rate for the province was 57.3%, with 59% for urban and 54.1% for rural areas (in Poland respectively: 51.9% and 52.2% and 51.6%).

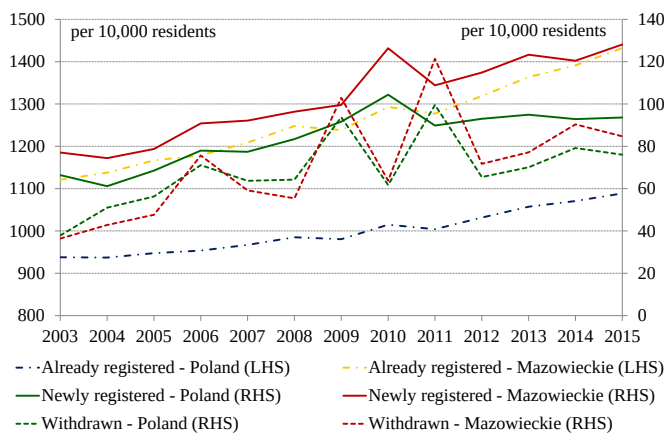

Fig. 3. Number of already registered, newly registered and withdrawn companies from the REGON registry per 10 thousand residents in Poland and Mazowieckie Province
Source: own elaboration based on GUS data.

In Mazowieckie, entrepreneurship is relatively well developed. In 2015 about 600 thousand people conducted an individual business activity, which means about 1400 entities per 10 thousand residents (Fig. 3). Since 2010, annually about 120 new entities per 10 thousand residents registered their businesses in the local governments and about 90 enterprises per 10 thousand residents were removed from the REGON register.

Assessment determinants of regional development

The data for all counties of Mazowieckie are used (with the exception of the capital city of Warsaw) for testing the hypothesis of a positive impact of increased activity of small enterprises on the county economic development in the years 2003-2014. The source of data is the Local Data Bank of the Central Statistical Office (GUS). A limit on the range of achievable economic and financial characteristics of counties lowers the possible number of variables representing regional economic development or the level of entrepreneurship. For this reason, the economic situation of the county is described by means of the volume of traded production generated by the enterprises registered in the county and employing more than 9 persons (Ident.: Production). The variable which substitutes the value of GDP per capita is the ratio of the retailed production per capita (Ident.: Production pc). This variable, by a certain degree, also characterizes the efficiency of companies located in the county. The state of the labour market, in a certain way, testifies to the level of the county's economic development. For this reason, the study uses the parameter of the number of employees in enterprises registered in the county and employing more than 9 persons (Ident.: Employment).

The level of small business activities in a county is characterized by two parameters. The first one equals the total number of private sector entities attributable to 10 thousand residents (Ident.: Firms). The fact that individual businesses comprise 80% of all companies allows us, with considerable approximation, to assume that the adopted parameter “Firms” well characterizes the state of the small business sector in the county. Similarly, the number of newly opened businesses per 10 thousand residents is also an equivalent of entrepreneurship and its pace of the growth. Capital expenditures could be treated as the contribution to development in innovation and new technologies (Ident.: Investment). In addition to the county characteristics, the province's GDP (Indent.: GDP MZW) is included in the group of explanatory variables. It characterizes the state of the macroeconomic environment for all districts of Mazowieckie. Distributions of variables used in the estimations are characterized by the descriptive statistics (Tab. 1).

Based on the results of the literature review the following panel regression model with fixed effects is proposed:

$$Y_{it} = \alpha_i + \beta_{it} \cdot X_{it} + \gamma_t \cdot Z_t + \mu_{it} + \varepsilon_{it}$$

where:

Y_{it} – variables describing the level of economic development of the county i in time t (variables: Production, Production pc, Employment);

X_{it} – individual characteristics of the county i in time t (Firms, New firms, Investments);

Z_t – variable describing the macroeconomic environment in the province in time t (GDP MZW);

α_i, β_{it}, γ_t, μ_{it}, ε_{it} – parameters to be estimated.

Table 1. Descriptive statistics

Variable	No.of observations	Average	Median	Standard deviation	Minimum	Maximum
Production (PLN mn)	410	1 256	881	1 003	641	8 571
Production pc (PLN)	410	13 614	11 002	11 709	8 318	61 577
Employment	410	21 907	20 139	10 295	7 100	55 253
Firms	410	116	112	35	54	270
New firms	410	1 291	1 183	398	726	2 617
Investment (PLN mn)	410	214	129	277	6	1 919
GDP MZW (PLN mn)	410	261 093	265 567	69 264	164 577	366 431

Source: own elaboration based on GUS data.

Estimation of the model is conducted using the STATA programme, and the results are presented in Tab. 2.

Table 2. Results of the estimation of the panel regression with fixed effects

Variable	Production	Stat. t	Production pc	Stat.t	Employment	Stat. t
Firms	5.359[a]	3.09	16.64	1.25	23.747[a]	5.51
New firms	2.191[a]	7.13	8.477[a]	3.59	7.369[a]	9.32
Investment (-1)	0.297	1.09	7.346[a]	3.49	2.505[a]	3.61
GDP (-1)	0.002[a]	4.57	0.035[a]	8.60	0.001	0.30
Constant	-2866[a]	-7.94	-9041[a]	-3.26	9113[a]	9.88
Number of observations (groups)	340 (34)		340 (34)		340 (34)	
Statistics F	64.62		74.30		88.26	
Coefficient R^2	0.461		0.496		0.512	

Note:[a] – level of statistical significance 1%; (-1) – one year lag.
Source: own elaboration based on GUS data.

The results are consistent with the results presented in the current research on the relationship between the activity of small businesses and the economic development of the region. The value of the traded production positively depends on both, the number of firms presently and the newly registered in a given year. An increase of one entity in relation to 10 thousand residents could increase by 5.4 million PLN the annual retailed production generated in a given district. On the other hand, an increase of one newly registered entity per 10 thousand residents could increase this production by 2.2 million PLN, which is consistent with the results obtained by Audretsch and Fritsch[12], Callejon and Segarra[13] and Mueller[14]. The total value of transacted production is also related

[12] D. Audretsch, M. Fritsch, op. cit.
[13] M. Callejon, A.M. Segarra, op. cit.

to the macroeconomic environment of the businesses operating there (with a one-year delay). In this case, the increase of the province's GDP could rise by 2 million PLN in sales in the next year in each district.

A similar character in the relationship occurs when the economic development of the county is represented by the value of production conducted per one inhabitant. This parameter is positively affected by the increase in the number of newly registered entities, as well as the value of investment expenditures and the GDP of the whole province. Considering this variable as a measure of efficiency of the production it can be said that it grows along with the rise in the entrepreneurial activity in the county, which is in line with the result obtained by Holtz-Eakin and Kao[15].

The equation describing the dependence of the level of employment in the county of internal and external factors all estimated coefficients turned out to be statistically significant (Tab. 2). The calculation results confirm the stated hypothesis that an increase in activity among small businesses improves employment in the county. Increasing by one the number of entities per 10 thousand residents, the workforce could be increased by 24 employees and increasing by one the number of newly registered entities per 10 thousand residents could help to raise employment by 7 employees. This result is consistent with the observation made by Hart and Hanvey[16] and Folster[17]. In addition, an increase in a county's capital expenditures and the province`s GDP could rise the level of employment in the county in the next year.

Conclusions

The study evaluates the state of the economy, labour market and economic activity of small businesses in counties of the Mazowieckie Province during the period 2003-2014 based on the data from individual counties. The results of the analysis of the panel regression between indicators representing the county's economic development and the operating there of small enterprises allow drawing the following conclusions:

- A growing number of enterprises registered in a county is an important indicator of the rising economic potential of enterprises and households located there. The increase in the number of registered small enterprises positively affects the level of sold production generated by local enterprises, as well as the number of their employees.
- The growth of entrepreneurship and the increase in the number of newly registered companies increases the economic potential of enterprises and households and improves the county`s competitiveness. The increase in the annual number of newly registered small enterprises has a positive effect on the value of production retailed, the number of employees in the county and the efficiency of enterprises, expressed in value the production performed per one inhabitant.

[14] P. Mueller, op. cit.
[15] D. Holtz-Eakin, Ch. Kao, op. cit.
[16] M. Hart, E. Hanvey, op. cit.
[17] S. Folster, op. cit.

- The increase in a county's economic potential and its competitiveness can also be achieved by increasing the value of capital expenditure realized by enterprises located there. This process could be accelerated by the improvement of the province's economic situation expressed in the GDP generated there.
- Findings of the research are consistent with previous analyzes presented in the literature indicating the overall positive impact of the growth of the small business sector on the economic potential and competitiveness of the region.

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