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Regional Context of SMEs' Development.
Case Study of Southern Poland

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REGIONAL CONTEXT
OF SMALL AND MEDIUM-SIZED ENTERPRISES' DEVELOPMENT
CASE STUDY OF SOUTHERN POLAND

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ABSTRACT

The paper verifies the existence of relations between development of small and medium-sized enterprises (SMEs) and the particular factors of regional environment as well as demographic parameters of entrepreneurs and their enterprises. SMEs localized in Southern Poland in accordance with NUTS -1 nomenclature, which is made of two voivodeships: Lesser Poland (Małopolska) and Silesia (Śląsk), are research subjects. The main aim of the research is indication factors of regional environment which have stimulating and/or restrictive influence on SMEs development. These factors, having varied character, range and meaning, create conditions for SMEs development in a given region. The dissertation tries also to assess regional environment behaviour as well as indicate desirable directions of its changes. The study of literature including over 300 bibliographic positions as well as synthesis of conducted theoretical considerations allowed to formulate three main and twelve working hypotheses, which were statistically verified. The results of own empirical research can be used on theoretical (as inspiration to further research in this range), as well as practical field (as basis of changes for local decision-makers while creating regional business environment).   The undertaken research problem has pragmatic character. Desirable directions of changes in regional business environment of small and medium-sized enterprises in Southern Poland especially including regional institutional environment as well as local policy in favour of small and medium-sized enterprises were determined on the basis of own empirical research results. The results contained in the dissertation can be used by regional business environment institutions, as empirical material made up the basis for forming recommendations directed to local decision-makers.

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1. Introduction

Regional circumstances play a crucial role in small and medium-sized enterprises' development. Nowadays, small and medium-sized enterprises (SMEs) are not operating on easy, stable or protected environments, they are operating in turbulent environments, which for the purpose of analysis can be separated into macro-, micro- and becoming more and more important mezoenvironment. It is a paradigm, that some regions have a more entrepreneurial attitude than others. More and more scientists attach great significance to regional factors of SMEs development. Many scientists finds considerable differences in entrepreneurial attitudes between regions within one country (Bergman, Japsen & Tamásy 2002). Studies on regional differences in start-up rates can explain these differences in a large extent on the basis of differences in socio-demographic variables and the regional industry structure. Entrepreneurial attitudes are to some extent dependent on the region of origin, but a number of questions concerning the regional influence still remain unresolved in a theoretical and empirical way (Bergman 2002), and this was the inspiration of conducting this research. Fragmentariness of scientific knowledge based on empirical investigation conducted in Polish reality, makes the author prepare own empirical research in this field. The aim of the paper is to present regional business framework which affects small and medium-sized enterprises' development in Southern Poland.

2. Regional business environment of small and medium-sized enterprises. Theoretical background

Competitiveness of economic units, especially small and medium-sized enterprises (SMEs), is co-created by the conditions lied in the closest surroundings, both local and regional, therefore the understanding of proper sources of competitive advantage requires undertaking the analysis on a mezoeconomic level. Thus delimitation and identification of regional factors, taxonomy of regional business environment as well as possibilities of optimization is very crucial for understanding the impact of regional environment on small business success, development and growth. Domestic as well as international literature points out a number of factors, which impact development of small and medium-sized

enterprises in qualitative and quantitative dimensions. The factors can be divided into three groups. The first one consists of characteristics and competences of a firm. Another very important group of factors depends on entrepreneurial potential of an owner or a manager. The last but not least group is made up of environmental factors in macro-, mezo- and micro-dimension. During the last decade scholars focused on regional environment conditions as business success factors (for example Reynolds 1999; Audretsch 2003; Hart 2003; Reynolds, Storey & Westhead 1994). Some scholars even pay a special attention to regional factors (for example Hart 2003, p.12; Audretsch & Fritsch 1996, p.140). In Porter's opinion particular regions compete in offering the most profitable business environment, in which the public and private sector play different, but related roles in creating the economic growth (Porter 2002b, p.3). The suitable macroeconomic policy determines economic growth, but is not sufficient because economic growth and competitive conditions depends mainly on mezo-environment conditions. The critical factor of small business success and economic growth is the quality of regional environment (Porter 2002a, p.22).

Although scholars agree that regional business environment plays an essential role in formation, survival, functioning and development of small and medium-sized enterprises, but simultaneously there is the lack of a common identification and classification of regional factors. Nevertheless it is difficult, and sometimes impossible to differentiate between regional and supra-regional or national factors (Sternberg & Arndt 2000, pp.3-7; Meyer-Krahmer & Grundrum 1995, p.177). In order to determine the regional factors affecting SMEs' development the study of literature was conducted, which allowed to arrange regional factors in order. The most popular and wide accepted research from different parts of the world were chosen, among them Porter (USA), Frenkel (Israel), Bergman, Japsen and Tamásy (Germany), Sfiligoj, Glas et al (Italy and Slovenia), Sternberg and Litzenberg (Germany), Malecki (USA) as well Kalinowski et al (Poland). The above mentioned authors indicated different regional factors, which had much in common, but very often were not sharply determined enough (table 1). Those factors were grouped in eight factors, which impact small business development (based on literature studies and a query search) as follows:

- availability of capital and financial support (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Sfiligoj & Glas 2000; Sterberg & Litzenberg 2004, Malecki 1997),
- local self-government initiatives and entrepreneurship infrastructure (e.g. Frenkel 2001; Bergman et al. 2002; Sterberg & Litzenberg 2004; Sfiligoj & Glas 2000; Kalinowski et al. 2005),
- availability and quality of business to business services (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Sfiligoj & Glas 2000; Kalinowski et at. 2005),

- availability of well-educated labour source (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Malecki 1997; Kalinowski et al. 2005),
- physical, transportation and telecommunication infrastructure (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Sterberg & Litzenberg 2004, Malecki 1997; Kalinowski et al. 2005),
- mobility of a local community (e.g. Bergman et al. 2002; Sterberg & Litzenberg 2004),
- knowledge and technology transfer (e.g. Porter 2001; Bergman et al. 2002; Sterberg & Litzenberg 2004, Malecki 1997),

Table 1. Survey of regional environment factors in view of different authors

Factors \ Authors	M.E.Porter (2001)	A.Frenkel (2001)	H.Bergmann, A.Japsen, Ch.Tamásy (2002)	A.Sfiligoj, M.Glas et al (2000)	R.Sternberg, T.Litzenberg (2004)	E.Malecki (1997)	T.Kalinowski at al [IBnGR] (2005)
physical infrastructure	+	+	+		+	+	+
business-to-business services	+	+	+	+			+
regional Policy if favour of SMEs		+	+		+		+
financial support	+	+	+	+	+	+	
well-qualified labour resources	+	+	+			+	+
local life standard	+	+					+
image of a region and its promotion		+		+			
natural resources	+						
knowledge and technology transfer	+		+		+	+	
public administration efficiency	+			+			
local competitiveness and cooperation	+					+	
business support centres			+	+			+
local entrepreneurial attitudes (norms and values)			+		+		
eduction and training			+	+	+		

Source: author's elaboration

The accessibility of capital as well as financial support is the key conditioning factor for formation, survival and development of SMEs, especially in an initial stage of development. Local authorities can use a wide variety of tasks in favour of entrepreneurship. Regional policy should be focus on fostering entrepreneurship, but it is recommended not only to introduce new ideas, but also to deal with efficiency of a local administration, which is very important for entrepreneurs (for example 'one-stop shop'). Entrepreneurship infrastructure, consists of noncommercial units specialized in activities for small business, is crucial for SMEs' development in order to assist them on different phases of development (especially in a start-up stage). Small and medium-sized enterprises need B2B services, especially legal, tax, market research, IT and strategic consulting, to develop. This factor is very important in a mezoanalysis because firms offering such services are located in a region. Factors connected with labour market (among others the accessibility of well-educated workers, work culture) depends stronger on regional than national level. Communication and telecommunication infrastructure (e.g. quality and accessibility of roads, railway connections and air traffic, access to Internet) plays the essential role for small business functioning and development. Factors connected with knowledge and technology transfer are very important, especially under globalization and knowledge-based economy circumstances. Regions can offer industry clusters, technology parks or innovation centres, which can assist to commercialize the development and research units' results in order to stimulate not only formation, but also growth of innovative firms. Social mobility, understood as readiness of a local community to active participation in economic processes, which is mounded by regulative, normative and cognitive norms, determines entrepreneurial behaviours in a region. Life standard of a local community can stimulate demand conditions, which makes this factor very important in a mezoanalysis. Regional conditions, especially efficient and effective utilization of locally diverse chances, development predispositions as well as co-operation between units is significant for development stimulus of micro, small and medium-sized enterprises.
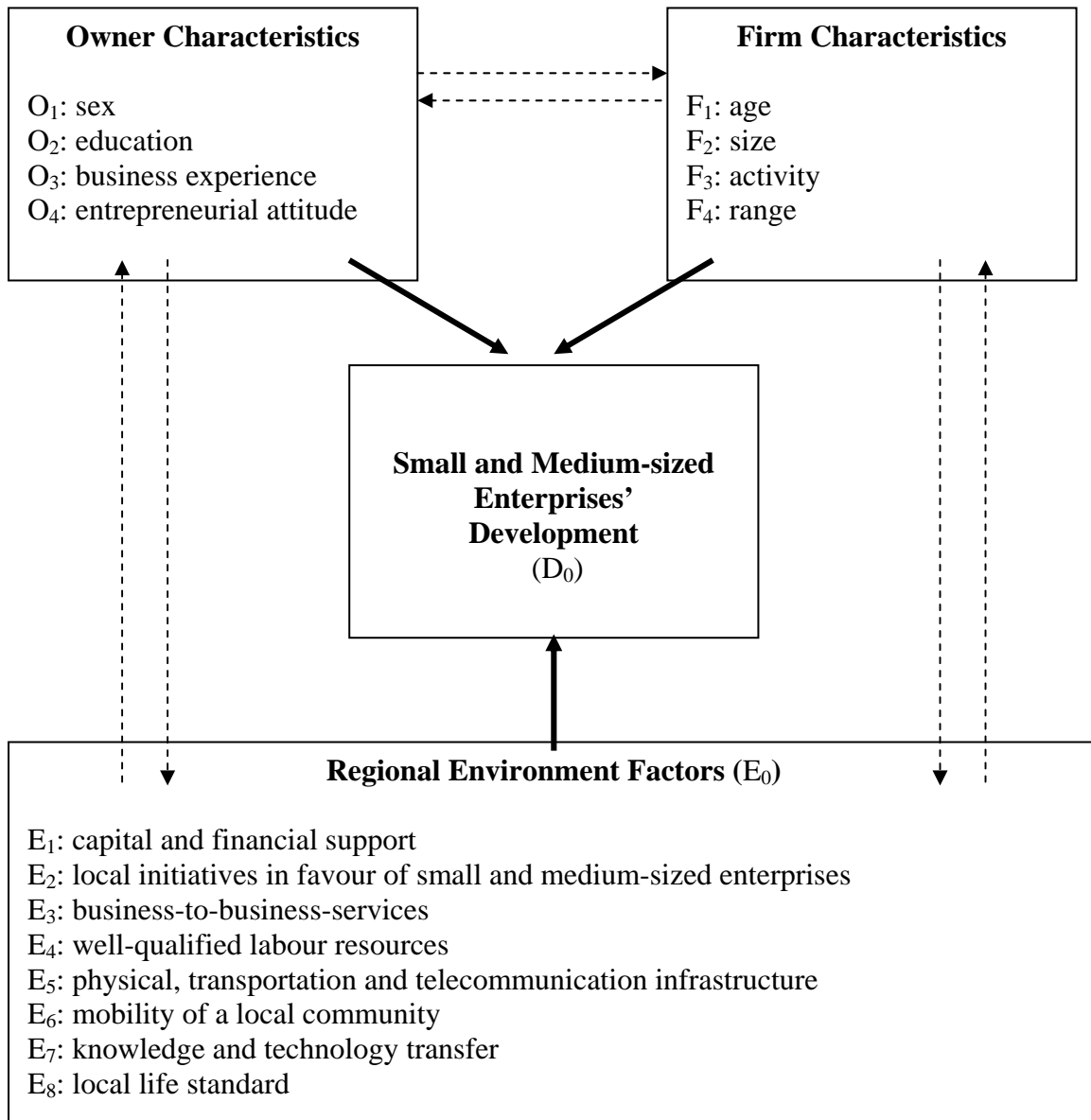
3. Research model

The research is quite interesting in Tamásy's (2002, p. 5) point of view because "there have been only a few such research so far" (e.g. Porter 2001; Frenkel 2001; Bergman et al. 2002; Sfiligoj & Glas 2000; Sterberg & Litzenberg 2004, Malecki 1997; Kalinowski et al. 2005). Porter's research on competitiveness and the role of regions is one of the most popular found in literature. His competitive advantage diamond is the most often cited and used conception of regional circumstances; nevertheless it represents the microeconomic more than the managerial point of view. Most authors researching regional framework

focused on the economics of any territorial conceptions at microeconomics level of an analysis. As Bergman (2002, p. 19) stated "a number of questions concerning this regional influence still remain unresolved. (…) it furthermore needs to be analysed which factors might be most important to improve attitudes and views about entrepreneurship". Thus the author decided to investigate the regional factors from the organizational and managerial point of view, that is pursing there impact on small and medium-sized enterprise development.

During the research two assumptions were made. As far as a business life circle of a firm is concerned the regional business environment influences SME development in different ways according to the needs of a firm on different stages of development. It allows us to assume that the regional environment impacts firms differently depending on the age of a firm. For small firms operating within a local market the regional circumstances play an important role. The second assumption allows us to limit the research only to the regional environment, apart from the general environment (macro-environment).

The empirical study was based on numerous questions, which thematically can be divided into three input groups (local business environment, the entrepreneurial attitude of the owner and the characteristics of the firm) as well as one output group (the development of a firm). The model was based on the first three factors mentioned above and then compared with the last one in order to verify the hypothesis (see figure 1). The first main variable - region environment ratio - is made up of eight general regional factors variables, each of which consists of sub-variables. The second main variable – features of enterprise - consists of 5 sub-variables (age, number of employees, type of activity, legal form, and range of activity). The third main variable – features of entrepreneur – is made up with 4 sub-variables (entrepreneurial attitude, sex, education level, and experience). Development ratio as the last main variable, consist of 12 sub-variables. The research was conducted within two groups: entrepreneurs and local authorities. The research was restricted to two provinces in southern Poland (Malopolska Voivodeship and Silesian Voivodeship). The first group consisted of 109 micro, small and medium-sized firms and the second group of 131 representatives of local communes. The questionnaire dedicated to entrepreneurs includes questions on all four variables, but the questionnaire dedicated to communes was limited only to questions on regional factors.

Figure 1. Research model
Source: author's elaboration

4. Empirical results

4.1. Managerial perception of regional business environment in Southern Poland

The arithmetical average for the managerial evaluation of regional capital and financial support accessibility (E1) carries out = 46,3, which is classified as 'rather unfavourable', simultaneously the most numerous group of studied entrepreneurs estimates it also as 'rather unfavourable' (the value of the dominant carries out Mo = 45). The value of the median (Me = 45) testifies that more than a half of the entrepreneurs estimated this factor as unfavourable, what is more, taking the value of the upper quartile (Q3 = 55), one can say that almost 3/4 of managerial evaluation of the studied entrepreneurs is convergent. In the studied sample there is no statistical significance dependence between the factor E1 and the

sector in which the studied firms operate (F3). Nevertheless there is statistical significance dependence between the factor E1 and three others variables describing the studied firms, namely the age of the firm (F1), the size of the firm (F2) as well as the range of firms' activities (F4). The dependence between the factor E1 and the size of the enterprise was proved by using chi-square test ($\chi2 = 10,56$ at $p = 0,01$) as well as chi- square of the highest credibility test (at $p = 0,01$). It shows, that predominant number of the micro and small enterprises estimate this factor negatively, however small-sized enterprise estimate this factor favourably. Statistically strong negative correlation between the factor E1 and the age of the studied enterprise F1 was proved by using linear Pearson's correlation ($r = - 0,45$ at $p = 0,044$). In the studied sample it was observed that firms functioning on the market more than 3,5 years more often estimate the factor E1 negatively, while the youngest firms more often estimate this factor favourably. Strong positive dependence advocating that the bigger the range of activities is, the more positive evaluation of the factor E1 is (it was confirmed by using linear Pearson's correlation, whose statistics carried out $r = 0,47$ at $p = 0,038$). The largest percentage of negative evaluations stepped out in the case of firms operating on the local market, and positive in the case of firms operating on international markets. Nevertheless it can be explained by the fact that banks are more favourably disposed towards internationally-orientated firms. Using linear Pearson's correlation allows to confirm the dependence between the factor E1 and the sector of economy in which the firm operates (F3). On the basis of the value of the statistics ($r = 0,44$ at $p = 0,043$) as well as a two-dimensional schedule it might be stated that industrial and building companies more often estimate the factor E1 negatively than servicing and trading firms. Probably it results from the size of the firm as the firms operating in the production or construction industry are bigger, than those operating in services and commerce industry, which can be taken into account while making decisions on credit support. One can not accept the thesis that the evaluation of the factor E1 depends on the demography of the enterprise with regardless of statistical verification. The test results on the sex of the entrepreneur (O1), the level of education (O2), the experience in business management (O3) as well as the entrepreneurial attitude (O4) are not statistically significant.

The average evaluation of the factor E2 reached = 55,97, which according to established ranks can be classified as profitable. Simultaneously the most numerous group of studied enterprises estimated this factor as profitable, which is confirmed by the value of modal (Mo = 60). Almost 2/3 of studied entrepreneurs estimated the factor E2 as at least 'favourable', which was testified by the value of lower quartile (Q1 = 46,7). On the basis of chi-square test ($\chi2 = 7,3$ at $p = 0,006$), as well as chi-square of the highest credibility test (at $p = 0,003$) the dependence between the evaluations of the factor E2 and the age of the studied enterprises (F1) was proved. The histogram shows that firms operating on the

market no more than 3,5 years more often estimate this factor favourably, while firms functioning on the market more than 3,5 years negatively. Moreover, the bigger the firm is (F2), the bigger the percentage of negative evaluations is, which was confirmed by chi-square test ($\chi2 = 7,06$ at $p = 0,05$). The least negative evaluations were observed among self-employed entrepreneurs. Taking statistical verifications into account only one out of four variables describing the studied entrepreneurs is related with the evaluation of the factor E2. The dependence between the factor E2 and the entrepreneurs' experience in business management was observed ($\chi2 = 4,13$ at $p = 0,04$). Respondents with at least 3,5-year-experience more often estimate the factor E2 favourably. Using statistics there are no grounds for confirming the dependence between the factor E2 and other variables (O1, O2, O4, F3, F4).

Almost 3/4 of studied entrepreneurs estimated the factor E3 as 'rather favourably' or 'extremly favourably', which was confirmed by the value of lower quartile (Q1 = 48). Simultaneously the most numerous group of studied enterprises estimated this factor as at least 'favourable', whhich was proved by the value of modal (Mo = 60). The value of chi-square test ($\chi2 = 7,5$ at $p = 0,05$) confirms the dependence between the evaluations of the factor E3 and the size of the studied enterprises (F2). This correlation was also confirmed using chi-square of the highest credibility test. In the studied sample it was observed that the larger the firm is, the higher of positive evaluations frequency is. Among studied enterprises employing up to 9 workers the percentage of negative evaluations carried out near 50%, while among small enterprises and medium-sized enterprises the percentage of positive evaluations carried out 90%. The value of linear Pearson's correlation carried out the r = 0,50 at the level of significance p = 0,025, which testifies strong positive correlation between the factor E3 and the variable F4. The histogram shows that the larger the range of the enterprise is, the higher the percentage of positive evaluations is. For example in the studied sample among enterprises operating on international markets the percentages of positive evaluations carried out 90,91%, while among enterprises operating on local and regional markets it oscillated round 60%. The evaluation of factor E3 depends on such variables describing entrepreneurs as his or her sex (O1) and experience in business management (O3). The first of these dependences was confirmed on the basis of the value of chi-square statistics, which carried out $\chi2 = 4,4$ at $p = 0,04$, as well as of chi-square of the largest credibility statistics (at $p = 0,03$). Moreover the average positive correlation was confirmed using linear Pearson's correlation (r = 0,42 near p = 0,066), which means that men more often estimate this factor favourably, while women are more prone to negative evaluations. In the studied sample it was observed that there is the dependence between the evaluation of this factor and the experience in business management, which was confirmed by using the linear Pearson's correlation (r = 0,42 at p = 0,068). This moderated positive correlation

testifies that the longer experience the maneger has, the higher percentage of positive evaluations is. Two-dimensional schedule of variables frequency affirm that studied entrepreneurs, who have at least 3,5-year experience, more often estimate this factor favourably. There are no statistical significances as far as the remaining demographic features (O2, O4, F1, F3) in the studied sample are concerned.

The average arithmetical for the evaluation of the factor E4 carries out   = 65,9, which means that it was estimated as favourable. Over 1/4 of studied entrepreneurs estimated this factor as 'extremly favourrable' (Q3 = 80), simultaneously it was the most numerous evaluation (Mo = 80 by 40 respondents). On the basis of the value of standard deviation it is necessary to state that entrepreneurs' evaluations differ about 21,5 % from average evaluation of this factor. The moderated negative correlation among the evaluations of the factor E4 and the size of firm (F2) was confirmed by using linear Pearson's correlation (r = -0,43 at p=0,06). It means that the smaller the firm is, the higher the percentage of negative evaluations is. Among studied small and medium-sized enterprises the percentage of positive evaluations carried out 75%, while among firms employing up to 9 workers (microenterprises or self-employed entrepreneurs) the percentage of negative evaluations carried out almost 30%. In the studied sample there was the regularity that the higher the level of education is (O2), the higher the percentage of positive evaluations is, which was confirmed by the value of chi-square test ($\chi2$ = 7,6 at p = 0,05). This dependence was also confirmed by chi-square of the largest credibility test (at p = 0,04). On the basis of conducted calculations there are no grounds to confirm the dependence between the evaluation of the factor E4 and the remaining features (O1, O3, O4, F1, F3, F4).

The average arithmetical evaluation of the factor E5 carried out   = 59, which according to the accepted ranks can be classified as favourable. Only 1/4 of studied entrepreneurs estimated this factor as unfavourable, which was proved by the value of the lower quartile (Q1 = 50). The value of the statistics $\chi2$ = 4,9 at the level of significance p = 0,03 confirms the dependence between the evaluations of the factor E5 and the age of the studied enterprises (F1). The older the firm is, the higher the frequency of negative evaluations is. Among firms functioning on the market no more than 3,5 years 82,76 % of positive evaluations was noted, while among these operating on the market more than 3,5 year the percentage of negative answers carried out 40%.

On the basis of arithmetical average (= 67,8) it can be affirmed that the average evaluation of social mobility degree in a studied region, defined by entrepreneurs, is marked as profitable, simultaneously the same evaluation is indicated by the most numerous group of entrepreneurs (Mo = 60). Taking the value of median (Me = 66,7) as well as the value the upper quartile (Q3 = 63,3) into account it can be inferred, that the majority of entrepreneurs estimated the feature E6 as profitable, specifying as extremely or rather profitable (figure 1).

This factor became negatively estimated only by the smallest enterprises, these employing up to 9 workers, which was confirmed by the value of chi-square statistics ($\chi2 = 6,9$ at $p = 0,07$). These results prove the correlation between the variable E6 and the variable F2. This dependence became also confirmed using chi-square statistics of the highest credibility at typical level of significance. With regard to four characteristics describing studied businessmen as well as four describing studied enterprises only one proved dependence was observed. The higher education level of entrepreneur is (variable O2) the bigger frequency of positive answers is. This dependence was confirmed using ch-square statistics ($\chi2 = 19,7$ at $p = 0,05$), as well as chi-square statistics of the highest credibility (at $p = 0,01$). The results of tests with regard to a sex of an entrepreneur (O1), the length of experience in enterprise management (O3), as well as the entrepreneurial attitude of an entrepreneur (O4), the age of a firm (F1), the sector in which it functions (F3) as well as the range of its activity (F4) there are not statistically essential dependences, which means, that there are no bases nor to prove, nor to reject verifying hypotheses in this incident.

The regional knowledge and technology transfer was estimated high by the studied entrepreneurs (the maximum value carried out 93,3 simultaneously the minimum value carried out 46,7, which means it was the highest). Taking the value of arithmetical average ($\chi2 = 72,3$) as well as the median (Me = 73,3) into account, it is necessary to state that almost half o the studied entrepreneurs estimated the feature F7 as 'extremely favourable'. Moreover the lowest standard deviation out of nine remaining factors of regional environment was observed (s = 10,5), which marks that the average difference of the entrepreneurs' evaluations from the average arithmetical studied variable E7 is low. On the basis of the value of standard deviation we can draw out the conclusion, that the evaluation of this factor is the least diverse (min = 46,7, max = 93,3). The most numerous group of studied entrepreneurs estimated this factor as 'favourable' (Mo = 66,7, at mode size 29). The strong positive correlation between the respondents' education (O2) and the evaluation of regional knowledge and technology transfer (E7) was observed by using linear Pearsona correlation (r = 0,48 at $p = 0,03$). The higher level of education is, the higher the frequency of positive evaluations is. On the basis of conducted calculations there are no grounds to confirm the dependence between the evaluation of the factor E7 and the remaining features (O1, O3, O4, F1, F3, F4).

The arithmetical average for the evaluation of the factor E8 reached = 69, which according to the received ranks can be classified as 'favourable'. The most numerous group of entrepreners estimated this factor identically, which was confirmed by the value of the dominant (Mo = 66,7). The value upper quartile (Q3 = 80) testifies that at least 1/4 of studied entrepreneurs estimated this factor as 'extremely favourably'. The dependence between the evaluation of factor E8 and the sector of economy in which the enterprise operates (F3) was

confirmed by using chi-squared test ($\chi2$ = 3,6 at p = 0,05). Negative evaluations have been noted down only among servicing and trading enterprises, which can testify about special sensibility of these enterprises to life standard of local community. Two out of four variables describing entrepreneurs four variables were proved. Using chi-squared test ($\chi2$ = 3,6 at p = 0,04) shows that the evaluation of the factor E8 depends on the sex of the studied entrepreneurs (O1). It was observed that men more often estimate favourably this factor, while among women the relatively high percentage of negative answers was noted down. On the basis of linear Perason correlation (r = 0,48 at p = 0,03) we can point out moderate positive correlation between the evaluation of the factor E8 and the level of education (O2). The higher the level of education is, the higher the percentage of positive evaluations is. On the basis of conducted calculations there are no grounds to confirm the dependence between the evaluation of the factor E8 and the remaining features (O3, O4, F1, F2, F4).

The synthetic coefficient of managerial evaluation of regional environment in the studied region was prepared (E0) in order to conduct the analysis of influence of regional business environment on small and medium-sized enterprises' development. The coefficient was constructed pursuant to the sum of values (in the 1-to-5 range) indicated by respondents for every partial factor (E1 - E8), and then it was divided by the sum of maximum values possible to obtainment. In the end the average estimation standardized in the 0-to-1 range (expressed in percentage terms in the 0-to-100 range) was obtained. As a result the quasi continuous variable was obtained. The average managerial evaluation of regional environment was classified as 'rather favourable' on the basis of both the value of arithmetical average = 62,3 and established ranks.

4.2. Links between regional business environment and SMEs' development

In order to define the dependence between particular factors of regional business environment and small and medium-sized enterprises' development detailed analysis was conducted. During the statistical verification five of eight detailed factors were successful verified (see table 1), namely: degree of accessibility of capital and financial support (E_1), local initiatives in favour of small and medium-sized enterprises (E_2), degree of social mobility in a studied region (E_6), knowledge and technology transfer (E_7) as well as life standard of local community (E_8).

Table 2. Research results

Hypotheses		results
H1	**Regional business environment factors impact small and medium-sized enterprises' development in a studied region.**	**+**
H 1.1.	Availability of capital and financial support impacts small and medium-sized enterprises' development in a studied region.	**+**
H 1.2.	Local initiatives in favour of SMEs impact small and medium-sized enterprises' development in a studied region.	**+**
H 1.3.	Availability and quality of business-to-business services impacts small and medium-sized enterprises' development in a studied region.	–
H 1.4.	Availability of well-qualified labour resources impacts small and medium-sized enterprises' development in a studied region.	–
H 1.5.	Condition of physical, transportation and telecommunication infrastructure impacts small and medium-sized enterprises' development in a studied region.	–
H 1.6.	Mobility level of local community impacts small and medium-sized enterprises' development in a studied region.	**+**
H 1.7.	Knowledge and technology transfer impacts small and medium-sized enterprises' development in a studied region.	**+**
H 1.8.	Life standard of local community impacts small and medium-sized enterprises' development in a studied region.	**+**

Legend:
„ +" – proved
„ – " – unproved because of the lack of statistical significance
Source: author's elaboration based on own empirical research

The first two factors was indicated using linear Pearson correlation, in addition to which between degree of capital and financial support accessibility in the region and small and medium-sized enterprises' development there is moderate correlation ($r = 0,44$ at $p = 0,046$), whereas weak correlation was observed for local initiatives in favour of small and medium-sized enterprises ($r = 0,25$ at $p = 0,014$). Next three dependences were confirmed using chi-square test, in addition to which two of them at typical statistical significance ($p < 0,5$), these are degree of social mobility of a local community ($\chi^2 = 14,3$ at $p = 0,006$) and knowledge and technology transfer ($\chi^2 = 6,4$ at $p = 0,04$), whereas dependence between life standard of local community and small and medium-sized enterprises' development was proved at acceptable statistical significance ($\chi^2 = 2,8$ at $p = 0,09$). Studied dependences became also confirmed using different statistical tools among them Yates correction chi-square test, Mann-Whitney test U as well as test t-Student).

For the rest three factors there are not statistical significance, which allows neither to prove nor to reject the given hypotheses, namely: degree of business-to-business services availability (E_3), degree of well-qualified labour resources availability (E_4) and condition of physical, transportation an telecommunication infrastructure (E_5).

n order to check the dependence between regional business environment and small and medium-sized enterprises' development, the general ratio estimating regional environment (E_0) was created. The ratio was formed using eight detailed variables used in the research model (E_1-E_8). On the basis of results of own empirical investigations conducted in Southern Poland including two voivodeships - Lesser Poland (Małopolska) and Silesia (Śląsk) - the hypothesis stating that there is dependence between regional environment factors and small and medium-sized enterprises' development became favourably verified. Such correlation was also showed by other researchers testing different regions of Poland. Between general ratio of regional business environment factors in Southern Poland and small and medium-sized enterprises' development there is weak positive correlation, which was confirmed using linear Perason correlation (r = 0,3 at p = 0,006). Observed correlation is admittedly weak, however has strong statistical significance. Strong correlation steps out very seldom, because many factors including both exogenous and endogenous ones, influence studied phenomenon. Therefore such results could be expected. The mention above result can not surprise first of all with regard on large centralization of policy supporting small and medium-sized enterprises in Poland as well as more or less equal conditions of regional environment in the whole country as the remaining after the previous economic system. Moreover in entrepreneurs' perception from a studied region the factors of regional business environment play the third-rate part (76,5 %) in small and medium-sized enterprises' development, whereas nationwide conditions play the main influence in their opinions (96,2 %) as well factors connected with the businessmen's personal characteristics (figure 2). Received results confirm the given hypothesis H1, that the regional business environment influence small and medium-sized enterprises development in a studied region.
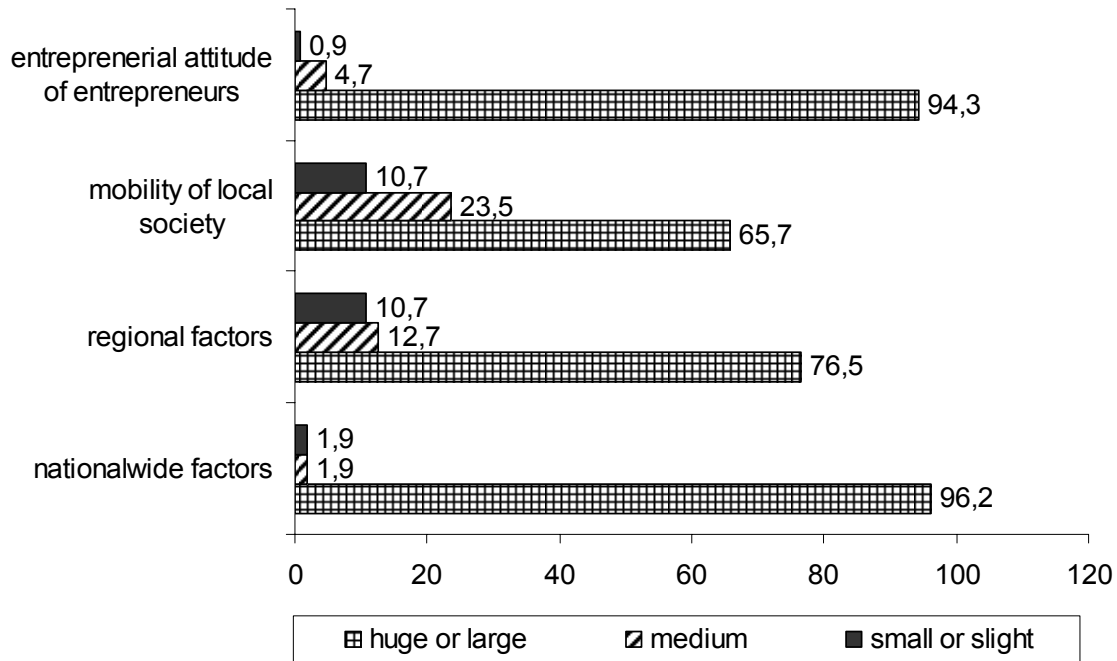
Figure 2. Importance of environment dimensions in entrepreneurs' view (in %)
Source: author's elaboration the main influence in their opinions play

The most often indicated barrier by entrepreneurs (see table 3) was the lack of suitable financial support offered by territorial authorities (58,7 %). This opinion was confirmed also by local communes, which indicated this factor as second in turn barrier (46,6 %). Local policy (created mainly by communes) in favour of small and medium-sized enterprises was also equally often appointed by entrepreneurs as a barrier (55,1 %). Nevertheless territorial authorities indicated this factor among three the most essential stimuli to the development of small and medium-sized enterprises. Entrepreneurs as well as local authorities indicated further the following barriers: lack of commercial financial support (firms 54,1 %, communes 55,7 %); high business rent (firms 47,7 %, communes 33,6 %); life standard of local community (firms 44,1 %, communes 33,6 %). As a regional barrier of SMEs' development entrepreneurs indicated equally often local business support centres (45,9 %), while communes as a regional barrier recognised weak accessibility and low quality of B2B services (32,1 % - 5. rang). Unlike entrepreneurs defined this factor more often as a stimulus (36,7 %) than a barrier (25,7 %).

**Table 3. Regional barriers of SMEs development in Southern Poland
in entrepreneurs' perception**

barrier	rang	percentage
public financial support	1	58,7%
local policy in favour of SMEs	2	55,1%
commercial financial support	3	54,1%
business rent prices	4	47,7%
regional business support centres	5	45,9%
life standard of local community	6	44,1%
regional business associations	7	32,1%
transport and physical infrastructure	8/9	27,5%
regional labour resources	8/9	27,5%
business-to-business services	10	25,7%
distance to/from suppliers	11	19,3%
distance to/from sale market	12	17,5%
image of the region	13/14	16,5%
supply of business offices	13/14	16,5%
IT infrastructure	15/16	12,8%
distance to/from cooperants	15/16	12,8%

Source: author's elaboration based on own empirical research

Collating barriers indicated by entrepreneurs with the assessment of regional environment factors accomplished by entrepreneurs (according to worked out research methodology) one can confirm negative impact of financial support on SMEs development in the given region. The majority of entrepreneurs evaluated the available capital and financial support in the region negatively, while most of the communes estimated it positively or did not evaluate it stating as difficult to say. Nevertheless there is a moderate correlation between the mentioned factor and the development of small and medium-sized enterprises. The Pearson correlation is 0,44 at significance level $p < 0,05$, which means that capital availability and financial support in the region impact the development of SMEs. Any significant differences between evaluation of young firms (up to 3,5 years old) and older were not observed using Chi-square Pearson test. This factor in comparison with remaining regional business circumstances was the lowest estimated by entrepreneurs. What is more businessmen pointing out the main barriers of SMEs' development indicated simultaneously the lack of suitable public and commercial financial support. This phenomenon is called Macmillan gap, that is a gap between demand for capital from small and medium-sized enterprises side and supply of money to firms, especially on regional level (Jóźwiak-Mijał 2005, p. 49-53). The division of studied firms on these using external financial sources (54,1 %) and these not using (45,9 %) was almost equal, while bank credits and loans from family and relatives were found as the most popular external financial sources among entrepreneurs (see table 4).

Table 4. External financial sources used by studied firms

Popularity of usage	Type of external financial sources
54,7%	bank credits and loans
29,1%	loans from family, relatives and friends
10,5%	EU Structural funds
3,5%	public subsidy and grants offered by central and local government
1,2%	non-commercial funds (low interests)
1,2%	other sources

Source: author's elaboration based on own empirical research

Regional stimuli (table 5) to small and medium-sized enterprises development are in principle convergent both in the entrepreneurs' and local authorities' opinion of southern Poland region (Małopolska and Śląsk). Both studied groups as a stimulus showed telecommunication infrastructure the most often (firms 64,2 % - 1. position, communes 49,6 % - 4. position) as well as closeness of sale markets (firms 54,1 % - 2. position, communes 54,2 % - 1. position). Entrepreneurs additionally indicated remaining resources factors the most often as well as closeness of suppliers (48,9 %) and closeness of the cooperants (45,9 %), under this regard similar opinions presented communes. Local policy in accordance with self-evaluation of communal decision-makers is peaceably one of main stimuli (52,7 % - 2. position), while entrepreneurs had an opposite opinion. Local self-government indicated equally often regional image as a regional stimulus of small and medium-sized enterprises development (52,7 % - 2. position). Evaluation of this factor accomplished by entrepreneurs was somewhat lower (36,7 % - 5. position).

Table 5. Regional stimuli of SMEs development in southern Poland in judgement of entrepreneurs and communes

stimulus	firms		communes	
	rang	percentage	rang	percentage
IT infrastructure	1	64,2%	4	49,6%
closeness to/from sale markets	2	54,1%	1	54,2%
closeness to/from suppliers	3	48,6%	6	43,5%
closeness to/from cooperants	4	45,9%	7	40,5%
image of the region	5-7	36,7%	2/3	52,7%
supply of business offices	5-7	36,7%	9	32,8%
B2B services	5-7	36,7%	11	28,2%
regional labour resources	8	35,8%	5	48,8%
transport and physical infrastructure	9	27,5%	8	35,1%
life standard of local community	10	26,6%	12	23,7%
business rent prices	11	19,3%	14/15	19,1%
regional business associations	12	13,8%	13	22,9%
Regional business support centres	13	11,9%	10	30,5%
commercial financial support	14	10,1%	16	11,4%
local policy in favour of SMEs	15	6,4%	2/3	52,7%
public financial support	16	5,5%	14/15	19,1%

Source: Author's elaboration based on own empirical research

Analysing regional barriers and stimuli of small and medium-sized enterprises development it is necessary to stress also, that some entrepreneurs recognised a particular coefficient as a barrier, while the others as a stimulus. Almost the same percentage of answers was noted down for two factors: transport and technical infrastructure as well as services for business (B2B services). These results testify to differentiation of particular enterprises needs taking their age and size or the phase of development into account. Conclusions for regional authorities and regional business environment institutions, which can be drown out, are obvious. While planning (regional) support policy in favour of small and medium-sized enterprises it is necessary to adopt the instruments to different needs of target enterprises resulted from their specifications.

The achieved results show, that the largest barrier in small and medium-sized enterprises' development in Southern Poland is low degree of capital and financial support accessibility (that means its shortage or lack), which results from the fact that small and medium-sized enterprises are subject to the larger limitations than large enterprises in the range of external financing costs as well as access to external funds. Small and medium-sized enterprises, in contrast to large firms, generally are not able to gain funding on capital markets and therefore they have to depend mainly on traditional external funding institutions (for example bank credits) as well as on informal sources of financing (for example informal loans from relatives).

5. Conclusions

Regional business environment plays a crucial role in stimulating small business development. Present worldwide research focus mostly on the microeconomic point of view, passing over the managerial dimensions of the issue. Thus, own empirical research tried to solve the problem from the managerial point of view. While evaluating the current state of the regional factors, the entrepreneurs' perception was implemented as a research technique. The research assumed eight regional factors, which can impact success of small and medium-sized enterprises. The factors were appointed on the basis of literature study by grouping various factors indicated by various authors. Factors, appointed in this way, treated the regional environment more comprehensively than presented in previous research.

The analysis of literature as well as the results of own empirical research confirm, that the proper functioning as well as development of small and medium-sized enterprises depends among others on particular factors of regional business environment. Local and regional conditioning, and especially efficient and effective utilization diverse chances, developmental predispositions as well as cooperation can be significant stimuli for small and medium-sized

enterprises' development in a studied region. Affirming on the basis of conducted investigations, that regional factors are key stimuli for SMEs' development can be going too far, however it is for sure that regional factors are ones of essential determinants of SMEs' development, and their analysis delivers valuable directions for changes in this range.

It was the first such research conducted in southern Poland, however the results are convergent to research results conducted in other regions of Poland dedicated only to regional barriers and stimuli, which means that the period from introducing territorial self-government in Poland (from 1999 up to now) did not allow to shape a proper regional framework for entrepreneurship development and diversification in this field. Similar results was noticed also by Daszkiewicz (2000), Nogalski and his team (2004), Krajewski & Śliwa (2004) or Strużycki and his team (2004).

Based on thoroughly verifiable empirical material the following conclusions can be drawn:

- Regional financial support is aimed mainly at forming or newly formed enterprises omitting mature enterprises and microfirms in all stages of their development. Thus, decision-makers should adjust the financial support to the needs of both grown-up and very small firms.

- Local policy in favour of entrepreneurship in southern Poland takes mainly only potential entrepreneurs into consideration. Policy-makers have to bear in mind mature enterprises. Thus, there is a need to educate local authorities in this field.

- Low evaluation of entrepreneurial knowledge and skills within the community is alarming according to entrepreneurs opinions. Thus, implementing 'entrepreneurship' as an obligatory academic subject at all majors of studies is recommended. Although Poland has already implemented 'introduction to entrepreneurship' in secondary school, but the syllabus is theoretically overloaded.

- Low percentage of enterprises benefit from entrepreneurship support centres, notabene the lowest ratio is noted for newly formed enterprises. It can signify that entrepreneurship support centres should focus on their promotion among both potential and mature entrepreneurs.

- Surprisingly the low assessment of entrepreneurship support centres should be alarming. These institutions should treat their activities as providing professional services instead of free aid. What is more they should adjust their offer to the needs of entrepreneurs.

The author hopes that the results will be used as directions for future research (theoretical usage) and as recommendations for local authorities in Poland (pragmatic usage). As far as directions of future research are concerned it is necessary to emphasize that in the long run it will be possible to determine the impact power of regional factors on small and medium-sized enterprise development in Poland. The comparatively short experience of territorial self-government in Poland (since January 1st, 1999) makes it

impossible to stimulate enterprise efficiently and effectively on local and regional level. The detailed results were turned over to two local city councils in southern Poland, that is Kraków and Tarnów, which will use the results while programming future local policy in favour of small and medium-sized enterprises and entrepreneurship.

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