



## ENTREPRENEURSHIP RESEARCH IN THE POLAND

Wioletta CZEMIEL-GRZYBOWSKA<sup>a</sup>, Anna SKOWRONEK-MIELCZAREK<sup>b</sup>

<sup>a</sup>*Białystok University of Technology, ul. O. Tarasiuka 2, 16-001 Kleosin, Poland*

<sup>b</sup>*Warsaw School of Economics, ul. Madalińskiego 6/8, 02-554 Warszawa, Poland*

Received 12 November 2012; accepted 29 June 2014

**Abstract.** Access to financing plays an eminent role for a small enterprise sector in any economy. Research usually finds a positive size efficiency relationship, but few studies focus on sectors dominated by small and medium-sized firms (SMEs). This paper fills this gap by analyzing this relationship in the Polish industry sector, which is both successful and increasingly dominated by SMEs. It is envisaged that this study will contribute to the existing literature on small enterprise financing, with an emphasis on financial constraints in the Polish small enterprise industry sector. The paper presents only part of research. Analysis of the data will present an insight into the actual barriers for small enterprises constraints associated with debt financing arrangements.

**Keywords:** enterprise, industry, finance, business, small-medium sized enterprise.

**JEL Classification:** I230, J240, M130, R510.

### Introduction

The small business enterprises are significant contributor to GDP and important source of employment in every economy including the developed countries. The financing pattern of small firms is therefore an important issue for its serious policy and resource implications. It is widely believed that small firms have inadequate access to formal finance in developing countries as a result of market imperfections. It is therefore often recommended that there should be subsidized institutional finance for small-scale enterprises. World Bank also approves the SME (small manufacturing enterprises) support programs.

The assessment of decisions as to the timing and volume of funding of a project is extremely important and relevant for any organisation.

Access to financing plays an eminent role for a small enterprise sector in any economy. Based on previous empirical studies small enterprises tend to suffer from limited access to financial resources across the globe (Kahraman, Kaya 2010; Biao, Yi-Ju 2014). This study

---

Corresponding author Wioletta Czemieli-Grzybowska  
E-mail: [w.grzybowska@pb.edu.pl](mailto:w.grzybowska@pb.edu.pl)

aims to investigate the current state of small enterprise financing, as the data within the Polish context appears to be limited. The proper allocation of funding resources acquires a special significance in view of a shrinking economy (Rabin, Thaler 2001; Friedman 2010; Ferguson 2009). It is becoming vitally essential to assess the possible funding volumes taking into account the time value of money (Damodaran 2007), and enterprises should be particularly cautious and efficient in managing borrowed funds (Kale 2008; Brealey *et al.* 2008b). Given their economic relevance, the role of small and medium-sized firms and their ability to grow (Galiniene, Butvilas 2010; Furlan *et al.* 2014) and be successful are essential for economic development.

The recent global financial crisis affected, in one way or another, credit flows to all sectors in economies (Hodorogel 2009; Yusuf 2014). Further to this fact, small enterprises have been considered as most affected by the economic climate due to the effects of this credit crisis (Hodorogel 2009).

It is envisaged that this study will contribute to the existing literature on small enterprise financing, with an emphasis on financial constraints in the Polish, but not only, small enterprise sector. Analysis of the data will present an insight into the actual reasons for small enterprises constraints associated with debt financing arrangements. As a result, it will make a contribution to the disputes on the effectiveness of small enterprise-bank lending arrangements in the research literature.

The paper presents only part of research. As such, the justification for analysing small enterprises financing arises due to the high vulnerability of these businesses.

## 1. Justification for the research

The purpose of this study is to address some of the issues that surround small enterprises financing in general.

**In the First place**, there is very little available data on the type of financing used by smaller enterprises (Cosh, Hughes 2000), and it is not uncommon to find small enterprises having liquidity problems (Drever 2006).

**In the second place**, the existence and reasons of a “finance gap” for smaller enterprises have been on recently investigated by Watson *et al.* (2009) or Drever and Hutchinson (2007), the agenda for decades, ever since the Macmillan Report (Thomas 1931).

**In the third place**, it is widely held that banks are the main source of finance for small enterprises (Cosh, Hughes 2000). As a consequence, bank assessment of the riskiness of loan applicants and their resulting decision to grant credit (or not) are more important for small enterprises than for medium ones, as been noted by Jacobson *et al.* (2005).

Large enterprises are more reliable clients for financial institutions and financial or government institutions to direct their more financial support.

**In the fourth place**, state aid is the increasing share of external financing of small and medium enterprises.

## 2. Literature review on financing of small and medium enterprises

The informative materials comprise reference scientific studies from the international specialty literature, documents and reports of different research projects (Czemiel-Grzybowska 2011), own research works inclusively, statistical data and information.

Due to the prominent role of such firms in the economy, the source of finance to support their business is a crucial question. In particular, Storey (1994) suggests that firm growth is affected by the availability and cost of funding. The availability of finance for investment is vital to the sustainability and viability of small and medium-sized firms.

There is a huge literature on the rural credit and credit to small business. Among the recent publications we should mention World Bank Report (2010) on "Doing Business, 2010" and ILO Report (2009) on micro, medium and small enterprises, which contain good summary of the problems faced by small enterprises in a period of economic crisis (Skowronek-Mielczarek 2010).

Beck and Kunt (2006) show how financing constraint creates hurdle for the growth of small scale business. Ayyagari *et al.* (2005) show the importance of SMEs in all types of economies with cross country survey. Berger, Undell (2005) present a conceptual framework for streamlining small scale finance.

Small businesses are likely to suffer most from information and incentive problems and thus are particularly constrained in their capacity to obtain external finances (Berger, Undell 1998). Carpenter, Petersen (2002) show empirically that the growth of small firms is constrained by the source of finance. Therefore, much of the attention surrounding the growth of small and medium-sized firms is affected by capital structure decisions (Gregory *et al.* 2005).

## 3. Specifications and methodology

The study is based on a survey that included 1600 firms from 16 Polish regions concerning the fundamental factors on which depends the enterprises' access to finance. Thus, the study highlights the relationship between the access to finance for enterprises and their characteristics, such as age, size and propriety structure. From this perspective, it is found that young firms of small size as well as national ones face greater obstacles when they seek to obtain financial resources. The study also highlights the relationship between the degree of economic and financial development of a country (expressed through the degree of financial intermediation, the level of capital market development, the efficiency of the legal framework, the GDP per capita) and the access to finance for enterprises.

The subject of the research is a sample of 1600 enterprises of the SME sector (100 enterprises from each voivodship) that have received public support. The stratified sample required division into 3 subgroups (micro, small and medium-sized). The population of the SME sector enterprises included 3,874,683 entities. 42% of them included industry and building engineering, 58% included commerce and services. The choice of strata was based on the structure of capital expenditure in the SME sector in 2009, which was as follows: micro – 31.57%, small – 23.14% and medium-sized enterprises – 21.40% (Report... 2011).

In connection to this, the sample was chosen, in which the balance for small enterprises was 0.23, micro – 0.32 and medium-sized – 0.21. The choice of the strata was based on capital expenditure of the year 2009, because it is the most current year that offers detailed information about financial situation of small and medium enterprises.

Measurable aspects (quantitative) of functioning of small and medium enterprises include:

- owner characteristics,
- period of functioning of enterprises and ways of their establishing,
- markets,
- economic situation of enterprises before obtaining public support and after receiving it.

Data of this scope, based on own investigation's results in the year 2012, was related separately to micro, small and medium enterprises in the area of industry.

The choice of the sample of 1600 enterprises from 16 individual voivodships proceeded according to the contribution of each public support form, i.e. 80% of public support came from the group A (subsidies and tax allowances) and 20% from other forms (e.g. deferment or arranging instalments of interests, subsidies for bank loans interest). See Table 1.

Enterprises in the sample of 1600 were the subjects that obtained public support.

To analyze small and medium enterprises *Qualitative Comparative Analysis* – QCA was chosen. It was invented by C. Ragin (2000) and is widely used to examine causal connections in the analysis of a sample, especially of a low number (Ragin 1994). It was implemented, for example, in research concerning comparison of causes and outcomes of social revolution (Skocpol 1979). It was also used to follow effects (Wickham-Crowley 1991) that were caused by human capital and state intervention on the health care system (Hollingsworth *et al.* 1996), to examine the influence of social networks on religious changes (Smilde 2005), to explain the differences in managing workforce in production enterprises as well as effectiveness of enterprise financing (Coverdill, Finlay 1995), and finally to examine technological innovations (Rizova 2007). Consequently, QCA was used here to investigate causal connections in the SME sector enterprises before and after obtaining public support.

Benefits resulting from the use of the QCA method are connected with the possibility of testing complex problems in research, especially those, in which one or more factors independently lead to the proper answer on the bothering question. Furthermore, a significant scope of occurring conditions may cause different possible combinations of them. These combinations may even lead to the same outcome with equally justified explanation.

The QCA approach is “especially well-suited for addressing questions about outcomes resulting from multiple and conjectural causes – where different conditions combine in different and sometimes contradictory ways to produce the same or similar results” (Griffin, Ragin 1994).

Methodologically, QCA constitutes a bridge between quantitative and qualitative research through an integration of features of “*case-oriented and variable-oriented approaches*” (Ragin 1987). Configurative comparative methods stem from formal methods of qualitative analysis (Griffin, Ragin 1994), which examine similarities and differences between cases in a systematized way (Hafaiedh-Dridi 2009).

Table 1. Assumptions concerning dependence of the analyzed variables in accordance with the QCA model

No.	Dependent variables	Independent variables	Measurement rates
1.	Membership to trade or industry		Entrepreneur questionnaire
2.	Membership in micro, small or medium-sized enterprises		Entrepreneur questionnaire
3.	Period of enterprise activity		Entrepreneur questionnaire
4.	Ways of establishing enterprises		Entrepreneur questionnaire
5.	Markets		Entrepreneur questionnaire
6.	Profit margin		Entrepreneur questionnaire
7.	Debt of enterprises		Entrepreneur questionnaire
8.	Financial liquidity of enterprises		Entrepreneur questionnaire
9.	Contribution of the SME sector in creating GDP		GUS data: 2000–2009
10.	Number of employees in the SME sector		GUS data: 2000–2010
11.	Turnover profitability gross of enterprises		Turnover profitability rate gross with division into voivodships – GUS data 2002–2010
12.	Number of created enterprises		GUS data: 2000–2010
13.	Number of active enterprises		GUS data: 2000–2010
14.	Number of bankrupting enterprises		GUS data: 2000–2010
15.		Value of obtained public support by the SME sector (scope of support)	Boundary variable
16.		Object of obtained support to the SME sector	Boundary variable
17.		Form of public support	Boundary variable
18.		Period of obtaining public funds	Boundary variable
19.		Effectiveness of public funds in an individual enterprise	Boundary variable
20.		Number of enterprises of the micro, small and medium sector	Boundary variable
21.		Contribution of public funds In external sources of financing	Boundary variable

Source: Own elaboration.

Qualitative Comparative Analysis was developed by sociologist Charles Ragin in 1987 and elaborated in his book *The Comparative Method. Moving Beyond Qualitative and Quantitative Strategies*. Qualitative comparative analysis may be understood in a narrower depiction as an analytical technique, in a broader depiction as a research approach (Wagemann 2007).

In Qualitative Comparative Analysis the number of two, ten and fifty cases constitutes a small number of analyzed cases. Despite it, D. Berg-Schlösser, G. De Meur, B. Rihoux and C. Ragin claim that this method may be successfully used in an analysis of a large number of cases (more than one hundred). What is more relevant, QCA is significantly developing in areas such as organizational sociology and management science, especially on the level of social networks as well as on the level of micro and small enterprises. Hence, using QCA methodological instruments on the sample of 1600 SME sector enterprises (100 enterprises from each voivodship) allowed to conceptualize conditions of functioning and to estimate conclusions concerning purposefulness of obtained public support.

#### 4. Empirical results

In general, the access to financial products/financial services or the financial inclusion assumes the absence of barriers in the way of using financial products/services, regardless of whether these obstacles are or are not related with pricing (Demirguc-Kunt *et al.* 2008). Thus, improving this access means increasing the degree in which the financial products/financial services are available for everyone and at a fair price.

Within the firms that do not use financial products/services it can be distinguished several categories, whose identification is essential for the authorities in order to adopt the necessary measures to improve their access to finance (see Fig. 1). Thus, on the one hand, there are *the firms that have access to finance*, generally to financial products and services, but do not use them because they do not have viable investment projects.

*The involuntarily excluded firms* may be distinguished. Those firms do not have access to finance or financial services, although they demand them. The involuntary exclusion of firms from finance/financial services appears in the situation in which some companies do not earn enough income or do not have the guarantees requested by the suppliers of capital and therefore have a high credit risk.

Thus, the access to this type of loans is vital for the development of these enterprises. However, surveys show that small firms when compared with large firms are using bank financing for the new investments in a much smaller degree (see Fig. 2).

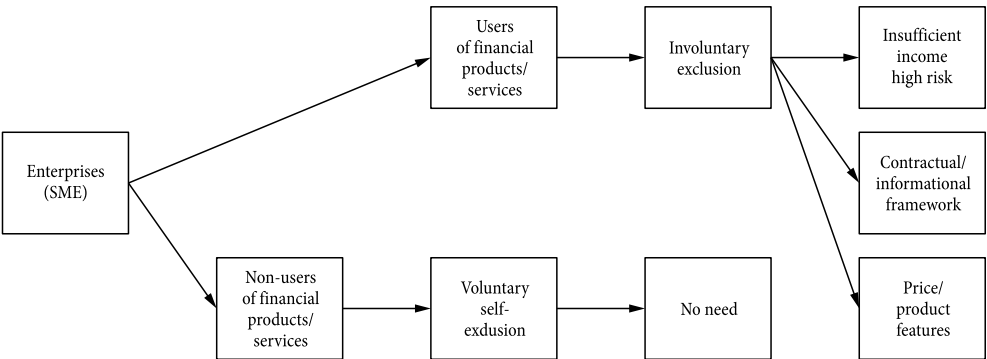


Fig. 1. The difference between the access to finance and the use of financial products/services  
Source: based on Demirguc-Kunt *et al.* (2008: 29).

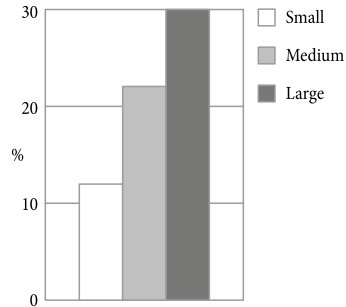


Fig. 2. The percentage of firms that use bank financing for new investments

Source: Own simulation based on the data provided by International Finance Corporation (2010: 15).

It is important to identify why small size firms use bank financing to a lesser extent. In this regard, some studies (Banerjee, Duflo 2004) have demonstrated that the main reason would be related to the supply, because every time when the SMEs had access to subsidized credit, they used it to increase the production. Such a conduct of firms strengthens the assertion that the lack of access to finance is a major obstacle to their growth (Ginevičius, Podvezko 2008). Furthermore, in the context of the current global economic crisis, the limited access of SMEs to financing has been increased as a result of reduced availability of bank loans. Thus, this type of enterprises faces major difficulties.

In the research pertaining to the period of 2001–2005 and 2005–2009 the following matters were included in the group of demand barriers: insufficient funds at the clients' disposal, too high competition on the market, lowering prices by rival companies, insufficient recognition of a company on the market and other reasons.

Both among enterprises of the SME sector that were established in the period of 2001–2005 and still functioning in 2006, and enterprises established in the period of 2005–2009 and still functioning in 2010, the most noticeable demand barrier was too high competition on the market. However, this barrier was more noticeable for enterprises created in the period of 2005–2009 (from 82.00% to 86.90% of the examined newly established enterprises indicated it as a barrier), than in the period of 2001–2005 (from 44.00% to 79.40%).

The growth of reasons that were not differentiated in the criterion is worth noticing (in the period of 2001–2005 growth contribution fluctuated between 2.30% and 9.30%, whereas in the period of 2005–2009 the other reasons varied between 7.80% and 12.50%). The difference between the analyzed periods is the difference pointed as the least noticeable. In the period of 2001–2005, it was pointed out that it is acute if an enterprise is insufficiently recognized on the market (from 12.80% to 37.30%), and in the period of 2005–2009 the barrier connected with clients' insufficient funds was pointed as the least noticeable (from 43.90% to 55.80%).

As it results from the data presented in Table 2, the most frequent demand barriers that were mentioned by enterprises established in the period of 2001–2005 and active in 2006, and established in the period of 2005–2009 and active in 2010 include:

- too high competition on the market (on average in 2001–2005 it is 72.28% in trade and 65.54% in industry, whereas in 2005–2009 it is 86.18% in trade and 76.80% in industry),

- lowering prices by rival enterprises (on average in 2001–2005 it is 60.70% in trade and 59.36% in industry, whereas in 2005–2009 it is 67.56% in trade and 59.70% in industry),
- clients' insufficient funds (on average in 2001–2005 it is 55.08% in trade and 38.88% in industry, whereas in 2005–2009 it is 55.50% in trade and 46.36% in industry),
- insufficient recognition of an enterprise on the market (on average in 2001–2005 it is 24.08% in trade and 40.22% in industry, whereas in 2005–2009 it is 26.28% in trade and 38.56% in industry),
- other reasons (on average in 2001–2005 it is 3.60% in trade and 3.50% in industry, whereas in 2005–2009 it is 12.18% in trade and 10.46% in industry).

It shall be noticed that in particular years there are some significant fluctuations in frequency of occurring of particular demand barriers in examined areas of activity. Nevertheless, average values constitute a benchmark in the matter of their importance to entrepreneurs.

In the research concerning the periods of 2001–2005 and 2005–2009 supply barriers include: insufficient technology, insufficient funds of an enterprise, difficulties in execution of debts, limited access to bank loans, lack of resources, lack of qualified workforce and other reasons.

Table 2. Demand barriers of the SME sector enterprises established in Poland in the period of 2001–2009

Demand barriers of the SME sector enterprises established in Poland in the period of 2001–2005 and still active in 2006					
Specification	2001	2002	2003	2004	2005
in % of the examined enterprises					
Clients' insufficient funds	32.60	55.5	76.80	54.90	47.50
Too high competition on the market	44.00	82.40	76.80	79.40	77.10
Lowering prices by rival enterprises	35.20	63.40	61.30	58.40	60.00
Insufficient recognition of an enterprise on the market	12.80	30.50	30.70	37.10	37.30
Other reasons	2.30	6.20	3.30	5.10	9.30
Demand barriers of the SME sector enterprises established in Poland in the period of 2005–2009 and still active in 2010					
Specification	2005	2006	2007	2008	2009
in % of the examined enterprises					
Clients' insufficient funds	53.90	55.80	51.10	51.20	43.90
Too high competition on the market	86.90	83.70	82.00	86.20	77.40
Lowering prices by rival enterprises	69.40	65.60	63.90	65.60	57.60
Insufficient recognition of an enterprise on the market	24.70	29.30	21.80	30.20	45.50
Other reasons	11.00	7.80	12.50	9.80	12.10

Source: Own elaboration on the basis of GUS (2007), Table 13, 8(22), 9(31), 9(41), 9(51).



Table 3 presents research results in the scope of occurring demand barriers according to the chosen criteria in the periods of 2001–2005 and 2005–2009.

Referring to average values concerning chosen supply barriers occurring in the period of 2001–2005 and 2005–2009, it is noticeable that the most significant barriers (Table 3) result from:

- insufficient funds (on average in the period of 2001–2005 it is 74.38%, in the period of 2005–2009 it is 79.40%),
- limited access to bank loans (on average in the period 2001–2005 it is 37.60%, in the period of 2005–2009 it is 29.46%),

Table 3. Supply barriers of the SME sector enterprises established in Poland in the period of 2001–2005 and still active in 2006 according to the kind of encountered difficulties (in % of the examined enterprises)

Supply barriers of the SME sector enterprises established in Poland in the period of 2001–2005 and still active in 2006 according to the kind of encountered difficulties (in % of the examined enterprises).						
Specification	2001	2002	2003	2004	2005	Average:
Insufficient technology	20.70	16.30	16.40	15.30	12.00	16.14
Insufficient funds	71.80	67.90	78.00	81.50	72.70	74.38
Difficulties in execution of debts	46.90	29.30	29.00	29.20	19.00	30.68
Limited access to bank loans	20.60	77.60	27.70	27.90	34.20	37.60
Lack of resources	9.50	4.60	5.60	3.40	4.10	5.44
Lack of qualified workforce	30.20	26.40	28.90	29.70	20.30	27.10
Other reasons	2.70	5.30	2.30	2.70	10.50	4.70
Supply barriers of the SME sector enterprises established in Poland in the period of 2005–2009 and still active in 2010 according to the kind of encountered difficulties (in % of the examined enterprises).						
Specification	2005	2006	2007	2008	2009	Average:
Insufficient technology	17.60	16.20	18.30	15.20	13.20	16.10
Insufficient funds	79.20	79.10	80.60	84.90	73.20	79.40
Difficulties in execution of debts	37.20	39.70	29.90	30.90	25.60	32.66
Limited access to bank loans	27.10	33.30	29.80	28.10	29.00	29.46
Lack of resources	7.50	5.30	5.00	3.30	7.10	5.64
Lack of qualified workforce	21.00	24.40	27.20	20.80	20.90	22.86
Other reasons	10.70	13.20	13.20	8.70	10.20	11.20

Source: Own elaboration on the basis of GUS (2007), Table 14, 9(23), 9(32), 10(42), 10(52).

- difficulty in execution of debts (on average in the period 2001–2005 it is 30.38%, in the period of 2005–2009 it is 32.66%),
- lack of qualified workforce (on average in the period 2001–2005 it is 27.10%, in the period of 2005–2009 it is 22.86%),
- insufficient technology (on average in the period 2001–2005 it is 16.14%, in the period of 2005–2009 it is 16.10%),
- lack of resources (on average in the period 2001–2005 it is 5.44%, in the period of 2005–2009 it is 5.64%),
- other reasons (on average in the period 2001–2005 it is 4.70%, in the period of 2005–2009 it is 11.20%).

The most frequently occurring supply barriers of the examined enterprises in the period of 2001–2005 include: insufficient funds, limited access to bank loans and difficulties in execution of debts. The least frequent barriers mentioned by entrepreneurs include: lack of qualified workforce, insufficient technology and lack of resources. Other reasons were mentioned very rarely. The analyzed period of 2005–2009 included: insufficient funds, difficulties in executing debts, limited access to bank loans and lack of qualified workforce. The following issues were mentioned very rarely: insufficient technology and other reasons, as well as lack of resources. It is worth noticing that in the period of recession, difficulties in executing debts have become more burdensome than access to bank loans. Moreover, other reasons cause difficulties more than a lack of resources.

As it results from the data presented in Table 2, demand barriers that were mentioned most frequently by enterprises established in the period of 2001–2005 and active in 2006, and established in the period of 2005–2009 and active in 2010 include:

- insufficient funds (in the period of 2001–2005 in industry it is on average 74.50%, in trade 77.94%, and in the period of 2005–2009 in industry it is 79.58%, in trade 77.86%),
- lack of qualified workforce (in the period of 2001–2005 in industry it is on average 33.84%, in trade 15.52%, and in the period of 2005–2009 in industry it is 28.54%, in trade 11.58%),
- limited access to bank loans (in the period of 2001–2005 in industry it is on average 30.62%, in trade 26.90%, and in the period of 2005–2009 in industry it is 27.10%, in trade 33.02%),
- difficulties in executing debts (in the period of 2001–2005 in industry it is on average 30.16%, in trade 31.06%, and in the period of 2005–2009 in industry it is 30.28%, in trade 24.12%),
- insufficient technology (in the period of 2001–2005 in industry it is on average 29.04%, in trade 13.72%, and in the period of 2005–2009 in industry it is 29.86%, in trade 11.30%),
- other reasons (in the period of 2001–2005 in industry it is on average 4.86%, in trade 4.25%, and in the period of 2005–2009 in industry it is 10.36%, in trade 14.00%).

In the area of industry in the period of 2005–2009 in comparison to the period of 2001–2005, insufficient funds and other not categorized barriers became a more serious barrier of

development. The access to bank loans and access to qualified workforce improved slightly.

In the area of trade in the period of 2005–2009 in comparison to the period of 2001–2005 significant changes were noted. Access to bank loans and other not categorized barriers became a more serious barrier of development, whereas executing debts and access to qualified workforce improved significantly.

The surveyed 1600 enterprises identified significant barriers to demand not systematized in accordance with the trend characteristic of all entities in the SME sector in Poland (Table 4).

Table 4. Supply barriers of the SME sector enterprises established according to the kind of encountered difficulties (in % of the examined enterprises)

Specification	Mikro	Small	Medium	Medium for businesses
in % of the examined enterprises				
Clients' insufficient funds	32.60	45.80	54.80	44.40
Too high competition on the market	64.00	72.40	73.80	70.06
Lowering prices by rival enterprises	25.20	23.40	21.40	23.33
Insufficient recognition of an enterprise on the market	12.80	8.20	10.70	10.56
Other reasons	2.40	4.20	2.30	2.96

Source: Own elaboration based on own research of 2012.

The most annoying barrier to companies considered is too much competition in the market (64% survey respondents among micro-enterprises, 72.40% among small enterprises and 73.80% among medium enterprises). The insufficient funds is another barrier, which is recognized as the company's progressive, very important thing, because needs of consumer demand-creating (32.60% survey respondents among micro-enterprises, 45.80% among small enterprises, and 54.80% among medium enterprises). The second thing Polish companies indicated is the price cuts by the competitors, the customers and the insufficient funds on the penultimate barrier. The price competition is still very annoying instrument used in the struggle for the competitive advantage, but among the samples was the third barrier (25.20% survey respondents among micro-enterprises, 23.40% among small enterprises and 21.40% among medium enterprises).

The growing internationalization of the economy means that businesses in the SME sector also expand their range of action, but they face difficulties due to lack of the brand recognition.

The big enterprises have available to take large incomparably greater financial resources to promote their own image, so they are better known in the markets for the local, regional and international markets.

Regression model (Table 5) can be considered acceptable, since random fluctuations are only 19% ( $W$  – coefficient of variation of residual) of average net profit margin ( $W \leq 20\%$ ). Estimated net profit companies are trying to 14.85% the amount of bank financing 2 750 thousand. PLN, without taking into account the average estimation error. However, taking into account the error, it will oscillate in the range of from 12.50% to 17.20% ( $14.85 - 2.35 < \hat{Y}_i < 14.85 + 2.35$ ).

Table 5. Regression of net income companies relative to bank finance companies

The amount of bank financing In thousand PLN $x_i$	The amount of net income in % $y_i$	Theoretical size of the dependent variable $y$ $\hat{Y}_i$	$y_i - \hat{Y}_i$	$(y_i - \hat{Y}_i)^2$
1200	7.80	9.45	-1.65	2.7225
1500	12.20	10.65	1.55	2.4025
1600	14.00	11.05	2.95	8.7025
1800	9.20	11.85	-2.65	7.0225
1800	12.50	11.85	0.65	0.4225
2000	15.00	12.65	2.35	5.5225
2125	9.90	13.15	-3.25	10.5625
2350	15.20	14.05	1.15	1.3225
2500	15.00	14.65	0.35	0.1225
$\Sigma$ 16875	110.80	$x$	$x$	38.8025

Source: Own elaboration based on own research of 2012.

There is a remarkable difference in creating needs of the commercial bank and industrial branch. Industrial activity aiming at permanent development requires funds; and this is the need that is becoming intensified with recognizing the new environment and creating an urge to be competitive in the market. With regard to the commercial area, where popularization of the company's image is essential (resulting from demand barriers), it is indispensable to obtain funds for marketing, advertisement and promotion. It is hard for commercial enterprises to obtain funds from investment credit, because they often do not have proper surety (industrial enterprises possess machine stocks that often constitutes loan collateral).

Additional financing can be obtained, broadly speaking, from bank or another financial institution. First, firms can seek both working capital and fixed asset financing from financial institutions in the form of bank loans, venture capital, etc. A second widely-used source of financing working capital is that obtained from suppliers: trade credit. While trade credit cannot directly finance R&D or capital investment, supplier financing can alleviate the need for incremental working capital.

The results from this article have also a number of interesting implications for policy makers. In most Western countries, there are introduced different types of measures to stimulate the growth of entrepreneurship. However, surprisingly little attention is given to the process of accessing external funding, such as preparing and training the entrepreneurial team.

## Conclusions

The difficulties that SMEs face when they are seeking to obtain the necessary funding resources are related both to the entrepreneurs and the economic environment from each country, as well as to the existing regulatory and institutional framework. In order to mitigate these difficulties, the measures taken by public authorities should focus on increasing financial development, which would ensure greater availability of financing for businesses and thus economic growth.

Given the limited availability and even lack of statistical data regarding SMEs' financing in various countries, including Poland, we consider that policy makers need to focus their efforts in order to shape and monitor a series of significant indicators, such as the share of loans granted to SMEs, based on their size, experience and sectors of activity, that would be useful for public authorities, creditors and investors.

The access to finance is indispensable for the efficient allocation of capital and the enterprise development. However, when compared with large enterprises, small and medium enterprises face many difficulties when pursuing to procure financial resources, which are due to several causes, including: the unstable and inadequate juridical and legislative framework, which does not support the relationship between capital providers and the enterprises that require financing. Moreover incomplete information and even lack of information from the part of both capital providers and enterprises prevents the development of normal and efficient relations between them; lack of a credit history and insufficient guarantees for creditors, especially in the case of the small and young firms; limited and, sometimes, inadequate range of financing products are also the barriers.

To conclude, most findings of the conducted study are of practical character; nevertheless, theoretical findings account for a considerable supplementation of the substantial content of management sciences. Even though the contribution of public support is still increasing, there are no corresponding dynamic economic-financial effects in enterprises that have been beneficiaries of this help. The objectives which are financed with public funds are differentiated, and it may be assumed that economic-financial effects may appear in the more distant future. At the same time, it is essential to verify tools of public support through constant adjustment of them to enterprises' needs (subsidies, loans, guarantees). It is also pivotal to monitor constantly the influence of public support funds on functioning of small and medium-sized enterprises in order to provide immediate adjustment of directing this support and distribute it where it is really needed.

The access to finance is indispensable for the efficient allocation of capital and the enterprise development. The small and medium enterprises face many difficulties when pursuing to procure financial resources, which are due to several causes, including: the unstable and inadequate juridical and legislative framework, which does not support the relationship between capital providers and the enterprises that require financing, incomplete information and even lack of information from the part of both capital providers and enterprises, which prevents the development of normal and efficient relations between them, lack of a credit history and insufficient guarantees for creditors, especially in the case of the small and young firms, limited and, sometimes, inadequate range of financing products.

## **Acknowledgements**

The article was written within the framework of research grant financed by the Ministry of Science and Higher Education in Poland, No. W/WZ/2/09.

## References

- Ayyagari, M.; Kunt, A. D.; Beck, T. 2005. *Small and medium enterprises across the Globe. A New Database*. World Bank Policy Research Working Paper No. 3127 [online], [cited 12 October 2012]. Available from Internet: [http://siteresources.worldbank.org/DEC/Resources/84797-1114437274304/SME\\_globe.pdf](http://siteresources.worldbank.org/DEC/Resources/84797-1114437274304/SME_globe.pdf)
- Banerjee, A.; Duflo, E. 2004. *Do firms want to borrow more? Testing credit constraints using a directed lending program*. Centre for Economic Policy Research.
- Beck, T.; Demirguc-Kunt, A. 2006. Small and medium-size enterprises: access to finance as a growth constraint, *Journal of Banking and Finance* 30(11): 2931–2943. <http://dx.doi.org/10.1016/j.jbankfin.2006.05.009>
- Berger, A. N.; Udell, G. 1998. The economics of small business finance: the roles of private equity and debt markets in the financial growth cycle, *Journal of Banking & Finance* 22(6/8): 613–673. [http://dx.doi.org/10.1016/S0378-4266\(98\)00038-7](http://dx.doi.org/10.1016/S0378-4266(98)00038-7)
- Berger, A. N.; Udell, G. F. 2005. *A more complete conceptual framework for financing of small and medium enterprises*, World Bank Policy Research Working Paper 3795. World Bank.
- Biao, S.; Yi-Ju, L. 2014. Achieving alliance ambidexterity through managing paradoxes of cooperation: a new theoretical framework, *European Journal of Innovation Management* 17(2): 144–165. <http://dx.doi.org/10.1108/EJIM-01-2013-0011>
- Brealey, R. A.; Myers, S. C.; Allen, F. 2008b. Brealey, Myers, and Allen on real options, *Journal of Applied Corporate Finance* 20(4): 58–71. <http://dx.doi.org/10.1111/j.1745-6622.2008.00204.x>
- Carpenter, R.; Petersen, B. 2002. Is the growth of small firms constrained by internal finance, *Review of Economics and Statistics* 84(2): 298–309. <http://dx.doi.org/10.1162/003465302317411541>
- Cosh, A.; Hughes, A. 2000. *British enterprise in transition: growth innovation and public policy in the small and medium sizes enterprise sector 1994–1999*. University of Cambridge, Cambridge.
- Coverdill, J.; Finlay, W. 1995. Understanding mills via Mill-type methods: an application of qualitative comparative analysis to a study of labor management in Southern textile manufacturing, *Qualitative Sociology* 18(4): 457–458. <http://dx.doi.org/10.1007/BF02404491>
- Czemieli-Grzybowska, W. 2011. *Eastern Poland – selected aspects of regional development in the period 2007–2013*. Bialystok University of Technology, Bialystok.
- Damodaran, A. 2007. *Return on Capital (ROC), Return on Invested Capital (ROIC), Return on Equity (ROE): measurement and implications*. Stern School of Business.
- Demirguc-Kunt, A.; Beck, T.; Honohan, P. 2008. *Finance for all? Policies and pitfalls in expanding access*. World Bank Policy Research Report. World Bank.
- Drever, M. F. 2006. *Determinants of liquidity for Australian Small and Medium-Sized Enterprises (SMEs)*. University of New England, Armidale.
- Drever, M. F.; Hutchinson, P. 2007. Industry differences in the determinants of the liquidity of Australian small and medium sized enterprises, *Small Enterprise Research* 15(1): 60–76.
- Ferguson, N. 2009. The descent of finance, *Harvard Business Review* 87(7/8): 44–53.
- Friedman, S. 2010. P&C Prices to lag in shrinking economy, *National Underwriter/Property & Casualty Risk & Benefits Management* 114(3): 7–31.
- Furlan, A.; Grandinetti, R.; Paggiaro, A. 2014. Unveiling the growth process: entrepreneurial growth and the use of external resources, *International Journal of Entrepreneurial Behaviour & Research* 20(1): 20–41. <http://dx.doi.org/10.1108/IJEBR-12-2012-0142>
- Galiniene, B.; Butvilas, A. 2010. Analysis of the capital cost impact on share value, *Technological and Economic Development of Economy* 16(1): 126–142. <http://dx.doi.org/10.3846/tede.2010.08>

- Ginevičius, R.; Podvezko, V. 2008. Multicriteria graphical-analytical evaluation of the financial state of construction enterprises, *Technological and Economic Development of Economy* 14(4): 452–461. <http://dx.doi.org/10.3846/1392-8619.2008.14.452-461>
- Griffin, L.; Ragin, C. B. 1994. Some observation on formal methods of qualitative analysis, *Sociological Methods & Research* 23(1): 4–21. <http://dx.doi.org/10.1177/0049124194023001001>
- Gregory, B.; Rutherford, M.; Oswald, S.; Gardiner, L. 2005. An empirical investigation of the growth cycle theory of small firm financing, *Journal of Small Business Management* 43(4): 382–392. <http://dx.doi.org/10.1111/j.1540-627X.2005.00143.x>
- Główny Urząd Statystyczny (GUS) 2007. *Warunki powstania i działania oraz perspektywy rozwojowe polskich przedsiębiorstw powstałych w latach 2001–2005* [online]. GUS, Warszawa [cited August 2015]. Available from Internet: <http://stat.gov.pl/obszary-tematyczne/podmioty-gospodarcze-wyniki-finansowe/przedsiębiorstwa-niefinansowe/warunki-powstania-i-działania-oraz-perspektywy-rozwojowe-polskich-przedsiębiorstw-powstałych-w-latach-2001-2005-notatka-informacyjna,16,3.html>
- Hafaiedh-Dridi, C. B. 2009. *Qualitative comparative analysis: a potencial to advance management research still to be exploited*. Chicago: AQMAM, 2–20.
- Hodorogel, R. G. 2009. The economic crisis and its effects on SMEs, *Theoretical & Applied Economics* (5): 79–88.
- Hollingsworth, R.; Hanneman, R.; Hage, G.; Ragin, C. 1996. The effect of human capital and state intervention on the performance of medical systems, *Social Forces* 75(2): 459–484. <http://dx.doi.org/10.1093/sf/75.2.459>
- International Finance Corporation. 2010. *Report* [online], [cited August 2015]. Available from Internet: <http://www.ifc.org/wps/wcm/connect/0d415600471da004ba57fe57143498e5/IFC+Investor+Pres+for+web+as+at++29+April+2015.pdf?MOD=AJPERES>
- International Labour Organization (ILO). 2009. *World of Work Report 2009*. International Labour Organization (ILO), Geneva.
- Jacobson, T.; Linde, J.; Roszbach, K. 2005. Credit risk versus capital requirements under Basel II: are SME loans and retail credit really different?, *Journal of Financial Services Research* 28(1–3): 43–75. <http://dx.doi.org/10.1007/s10693-005-4356-4>
- Kahrman, C.; Kaya, I. 2010. Investment analyses using fuzzy probability concept, *Technological and Economic Development of Economy* 16(1): 43–57. <http://dx.doi.org/10.3846/tede.2010.03>
- Kale, J. R. 2008. Corporate leverage and specialized investments by customers and suppliers, *Journal of Applied Corporate Finance* 20(4): 8–19. <http://dx.doi.org/10.1111/j.1745-6622.2008.00207.x>
- Rabin, M.; Thaler, R. 2001. Anomalies: risk aversion, *Journal of Economic Perspectives* 15(1 Winter): 219–232.
- Ragin, C. 2000. *Fuzzy-set social science*. Chicago: The University of Chicago Press, 12–23.
- Ragin, C. 1987. *The comparative method: moving beyond qualitative and quantitative strategies*. Berkley, Los Angeles, London: University of California Press. 105 p.
- Ragin, C. 1994. *Redesigning social inquiry: fuzzy sets and beyond qualitative and quantitative strategies*. Berkley, Los Angeles, London: University of California Press. 4 p.
- Report about the small and medium business In Poland*. 2011. PARP, Warszawa. 20, 28 p.
- Rizova, P. 2007. *Applying Charles Ragin's method of qualitative comparative analysis (QCA) to the study of technical innovation* [online], [cited 12 February 2012]. Available from Internet: [www.ssrn.com/abstract=1093090](http://www.ssrn.com/abstract=1093090)
- Skocpol, T. 1979. *States and social revolutions: a comparative analysis of France, Russia and China*. Cambridge UP, 12.

- Skowronek-Mielczarek, A. 2010. Innovation processes and the use of offshoring in enterprises. Quarterly. *Management of Science* 4.
- Smilde, D. 2005. A qualitative comparative analysis of conversion to Venezuelan Evangelicalism: how networks matter, *American Journal of Sociology* 111(3): 757–796.
- Storey, D. J. 1994. *Understanding the small business sector*. London: Routledge.
- Thomas, S. E. 1931. *Macmillan Report*. Committee on Finance and Industry.
- Yusuf, J. 2014. Impact of start-up support through guided preparation, *Journal of Entrepreneurship and Public Policy* 3(1): 72–95. <http://dx.doi.org/10.1108/JEPP-01-2012-0004>
- Wagemann, C. 2007. Qualitative Comparative Analysis (QCA). Che cosa è e che cosa non è, *Rivista italiana di scienza politica* XXXVII(3): 385–410.
- Watson, J.; Newby, R.; Mahuka, A. 2009. Gender and the SME “finance gap”, *International Journal of Gender and Entrepreneurship* 1(1): 42–56. <http://dx.doi.org/10.1108/17566260910942336>
- Wickham-Crowley, T. 1991. A qualitative comparative approach to Latin American Revolutions, *International Journal of Comparative Sociology* 32(1–2): 82–109. <http://dx.doi.org/10.1177/002071529103200105>
- World Bank. 2010. *Doing business, 2010, reforming through difficult times*. Palgrave Macmillan, IFC, World Bank.

**Wioletta CZEMIEL-GRZYBOWSKA**, PhD, Faculty of Management and Finance at Bialystok University of Technology. First degree of master of economy at University of Bialystok (2001), second degree of master of law at University of Bialystok (2005), PhD of economy at Warsaw School of Economics (2004). Author of about 60 scientific articles. Research interests: access to financing small and medium business, constraints of economic activity.

**Anna SKOWRONEK-MIELCZAREK**, Professor. Collegium of Management and Finance, Chairman of Corporate Management at Warsaw School of Economics. Author of about 200 scientific articles. Research interests: access to financing small and medium business, constraints of economic activity, economic analysis, corporate financial strategies.