

# Analyses of financing gap in the SMEsector/ Analiza luki finansowania sektora MSP

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## Introduction

The authorities and member states of the EU continue to focus on an issue of creating better conditions for development of small and medium enterprises. Lack of access to finance constitutes a significant barrier for many companies.

Taking into account that Polish SMEs sector constitutes more than 99 % of registered economic operators (1.8m operating companies) and it generates over 50% GDP, financial gap in this area has to be monitored. Rational economic policy can't be adopted without financial gap monitoring and removing barriers.

The thesis of this paper is that periodic evaluation of financing gap is important for its identification and taking up actions to diminish it, which would allow a steady increase of competitiveness of small and medium enterprises, their stability and resilience to crises.

The practical problem to solve is choosing the most effective method of assessing the gap. The paper presents different methods of assessing the gap applied in Poland.

In the research of above problem following methods were used: analysis of literature and reports, comparative analysis and desk research.

## 1. Theoretical aspects of financing gap

Lack of access to development capital makes a significant problem and quite often it creates a barrier for many SME companies in the EU. Across the European Union there are some actions taken that aim at solving the problem (Dec, Masiukiewicz, 2014; Olejnik, 2014, *On The Trail...*, 2013). A program based on the European Commission's Small Business Act (*Small Business....*, 2008) as well as a

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crisis support plan (*The Second Chance of Bankruptcy ...*, 2011) recommends better use of the SMEs potential.

Despite of theoretical availability of many instruments of repayable financing (credits, de minimis guarantees, mezzanine capital etc.) and non-repayable (EU subsidies); many SMEa have never taken advantage of external financing, which was confirmed by research conducted in recent years (*Rozwój przedsiębiorczości...*, 2014; Żukowski, 2013, Orłowski, Pasternak, Flaht, Szubert, 2010). At the same time the survey conducted by the author of the article confirms that there is a group – however small – of entrepreneurs in Poland willing to borrow at the black market of loans (Masiukiewicz, Dec, 2015).

The phenomenon of a financial gap can be defined in several ways. But they share one common element: they all point to the connection between insufficient funding and malfunctioning of the market (*Ocena luki finansowej ...*, 2013; Górka, 2012; Kowalski, 2014).

August 1997 the ghost of a long-dead growth model still haunts aid to developing countries. The Harrod-Domar growth model supposedly died long ago. But for more than 40 years, economists working on developing countries have applied- still apply- Harrod-Domar model to calculate short-run investment requirements for a target growth rate. They then calculate a financing gap between the required investment and available resources and often fill the financing gap with foreign aid. Easterly traces the intellectual history of how a long-dead model came to influence today's aid allocation to developing countries. He asks whether the model's surprising afterlife is attributable to consistency with the 40 years of data that have accumulated during its use. The answer is no. (*The Ghost of Financing Gap...*, 1999)

Generally a financial gap is defined as a difference between liabilities turnover and receivables and reserves turnover in an enterprise. Its level can be easily calculated for an individual company.

Calculating a gap could be approached individually or in macroeconomic scale i.e. across the whole economy. Such approach works better for intuitive understanding of financing gap as a funding shortfall in relation to long term demands of an enterprise. Identifying the sources of company value should also affect estimation of the financing gap, because classic approach envisages merely “calculation of income

generated by a project” (Szot-Gabryś 2010), while modern approach requires also taking into account an increase of expenditures on intangible assets.

During analyze of financing gap it's possible approach in base of aggregate potential demand or real demand (Bernat, 2015)

Financing gap can be also defined as kind of a market imperfection due to asymmetry of information between the entity in need of capital (i.e. SME) and the entity providing financial means (e.g. a bank). Defining the size of the gap involves calculating the amount of funds available for SMEs and estimating the enterprises' requirements (Kowalski, 2014). It is not a full definition, as it only describes one barrier – the information barrier; while in reality there are many more.

The report by the Institute for Structural Research assumes that a financing gap is a kind of unreliability of financial markets resulting from information asymmetry between an enterprise and an external capital provider. For example, on credit market: to find out whether a given loan is viable or too risky, the creditor has to know project's specifications and characteristics of the enterprise applying for funds. Sometimes acquiring such information is impossible or too expensive. So quite frequently the only option that remains is to limit access to credits or to increase interest rates. In both cases the result is a situation, in which some of the viable projects will not obtain funds, although it would be profitable for both the creditor and the borrower. This mismatch between supply and demand is called Macmillan gap or financing gap (*Ocena luki finansowej ...*, 2013, p. 8).

Financing gap can affect both debt capital and equity capital. The concept of financing gap is sometimes wrongly limited to capital market. The notion of capital gap is being used as an alternative. Its size is relatively small on the markets with intensive activity of various investors like venture capital, business angels etc. (*Evaluation of Market...*, 2013; Lepczyński, Penczar, 2013). Some projects of particular economic value (innovations, commercializing of new technologies and others) or social value (reduction of unemployment) can count on budgetary financing, as their states support them with so called seed capital funds (*Best practices of...*, 2005; *Źródła finansowania...*, 2014).

Institute for Structural Research has also introduced a concept of fixed assets gap – as an inefficiently small productive capital in enterprises resulting from insufficient external financing due to financing gap (*Ocena luki finansowej ...*, 2013, p. 8).

I'd like to introduce my own definition of the above issue: SMEs' financing gap designates lacking capital resources for development, for which there is demand in SMEs. The gap can be determined in a scale of an enterprise, of a region or of a whole country's economy and it reflects its state in a given year.

While determining of financing gap in an individual enterprise isn't all that difficult, estimations in a scale of a region or a country require special methodology. To research financing gap in a scale of a country following research models may be used:

1/ a focus model – we select a panel of enterprises, using stratified random sampling method and we analyse their demand for funds for planned investment. On the basis of the equity factor (for instance the share of assets of researched enterprises in the population's assets) and then on the multiplication coefficient – one can estimate the needs for funds in the scale of the whole economy.

2/ a supply-demand model – we rely on estimation of the value of credit and investment loan applications rejected by financial institutions (including parabanks) in the scale of a country as well as on the rejected EU subsidies applications. The sum of all these positions in the scale of a country will be an unrealized capital demand – and therefore a financing gap.

3/ a macroeconomic data model – we estimate the difference between the demand and the realized supply for capital as the financing gap size.

The focus model is relatively the simplest and the cheapest of them all, although the measurements could be significantly imprecise, if the sample is not sufficiently large. The following formula allows us to calculate the financing gap:

$$FG = W_1 x r_1(f:A_1) + W_2 x r_2(f:A_2) + W_3 x r_3(f:A_3)$$

where:

FG – financial gap

$W_1$  – financial gap of micro firm settled in focus research

$W_2$  – financial gap of small firm settled in focus research

$W_3$  – financial gap of medium firm settled in focus research

$r_1(f:A_1)$  – multiplication ratio of gap value for population micro (1), small (2) and medium (3) firms

Source: own

Analysis of financing gap in a scale of a country is seldom applied; such research is expensive and the general indicator conceals differences between individual regions. That's why the most commonly applied research methods are methods allowing to estimate a size of a gap in a scale of a region (Dec, Masiukiewicz, 2014; Górka, 2012; *Identyfikacja skali...*, 2011). Estimating a financing gap in a scale of a country is applied first of all to evaluate effectiveness of economic policy, to compare conditions for business activity in different countries and also to identify barriers for financing.

## 2. Results of estimations of financing gap in Poland

Imperfection of the method of estimating a financing gap generates significantly different results, depending on the method applied. Quoted research has shown different identifications of the gap, i.e. in respect of:

- size of an enterprise and its income
- stage of the lifecycle of an enterprise
- localization of companies (regionalization)
- economy sector
- range of the demand for external funds

Table 1 contains main reports on estimating financing gap in Poland in recent years. Generally, according to these reports, the biggest financing gap occurred in microenterprises (Kowalski, 2014). Presented estimations in reports seem inaccurate; dispersion of result ranges from 100 to even 500 per cent.

The most comprehensive study on financing gap sizes in Poland was the report from the research conducted by Institute for Structural Research in 2013. The main advantage of the research conducted in order to prepare the report was its simplicity, because in this case the gap was estimated on the basis of differences between the actual situation and the optimal level of capital. Estimation of the gap was based on several methods, i.e. using CATI method to survey a stratified random sample of 6274 enterprises, analyzing National Bank of Poland's and Central Statistical Office's data.

**Table 1.** Reports concern financial gap estimated in Poland

Title of research report	Year of research	Area of research	Estimated value of gap per year - mln PLN
1/ European Investment Fund	2008	Zachodniopomorskie	Microfirms – 220-290, SMEs - 570
2/ European Investment Fund	2008	Pomorskie	Microfirms -316-376, SMEs - 791
3/ Tamowicz P. <i>Analiza luki finansowej w woj. pomorskim</i>	2008	Pomorskie	45-161
2/ PAG Uniconsult <i>Ekspertyza dot. uwarunkowań wdrażania instrumentów inżynierii finansowej w Polsce Wschodniej</i>	2010	Warmińsko-mazurskie, podlaskie, świętokrzyskie, podkarpackie, lubelskie	1200
3/ PAG Uniconsult <i>Rola instrumentów inżynierii finansowej w województwie podkarpackim</i>	2011	Podkarpackie	200-400
4/ Zachodniopomorska Grupa Doradcza <i>Analiza luki finansowej w województwie dolnośląskim</i>	2012	Dolnośląskie	200-300
5/ PAG Uniconsult <i>Analiza luki finansowej w województwie pomorskim</i>	2012	Pomorskie	300-500
6/ Tamowicz P. <i>Wpływ wdrożenia Inicjatywy JEREMIE w regionie kujawsko-pomorskim</i>	2012	Kujawsko-pomorskie	82-163
7/ Instytut Badań Strukturalnych <i>Ocena luki finansowej w zakresie dostępu polskich przedsiębiorstw do finansowania zewnętrznego</i>	2013	Poland - country	11 118
8/ European Investment Bank - <i>Ex ante assessment of the EU SME Initiative</i>	2013	Poland - country	2 000-11 200

Source: [Kowalski D., 2014, *Ocena luki finansowej* ...,2013].

The authors of the report have assumed that the main method of estimating a financing gap should involve estimation of optimal capital. The advantage of this method is that it gives the results independently of enterprises' declarations (which may be affected by their subjective evaluation of investment capacity or growth potential; that in turn leads to overestimating the gap's size). It's disadvantage is that the size of the financing gap on an annual basis depends on the assumption of correlation between fixed assets and a stream of investments. The research assumed that the financing gap is equal with the fixed assets gap (the difference between

the optimal and the observed capital) corrected by depreciation rate (*Ocena luki finansowej ...*, 2013, p. 4).

The key criterion of sample selection was firm size class (applied in the EU), to assure researching of big enough samples of enterprises within the basic size classes and thus to enable analysis in relation to a company size. Because entities employing up to 9 people (microenterprises) account for 95 % of all companies, proportional sampling would lead to researching an insufficient number of small, medium and large enterprises in relation to the analysis requirements. What was necessary, was the use of disproportionate sampling, i.e. overrepresentation of small, medium and big entities. Their populations in the research amounted to: 2472 microenterprises; 2327 small, 1209 medium and 266 large enterprises. Since the sample was disproportionate, the results of the research were given weights, to assure a projection of the population structure.

**Table 2.** The financing gap in SME in Poland in the light of the Institute for Structural Research findings

Type of an enterprise /employment range	The gap of not granted financing	The gap of demand declaration	The gap of financing from capital	
			Fixed assets gap	Financing gap
The gap in millions of PLN				
Micro (1-9)	60 718	59 279	220 152	10 312
Small (10-49)	10 804	9 063	16 786	786
Medium (50-249)	6 470	5 466	314	20
Big (250+)	15 354	5 632	-13 800	- 900
Total	93 346	79 439	223 452	10 218
Number of enterprises with financing gap				
Micro (1-9)	210 872	199 146	-	-
Small (10-49)	9 865	8 880	-	-
Medium (50-249)	1 963	1 708	-	-
Big (250+)	292	257	-	-
Total	222 992	209 991	-	-

Source: [*Ocena luki finansowej ...*, 2013].

The total gap in small enterprises amounted to PLN 786 m and in medium enterprises to about 20m. Microenterprises showed a gap of about PLN 10 bn. Total size of the financing gap in 2012, PLN 10 218 bn. (*Ocena luki finansowej ...*, 2013, p. 4) – was not spread evenly between the companies in different regions and branches,

although it was visibly concentrated in two groups of firms: micro- and small enterprises. This is an important result, which indicates the demand for comprehensive aid measures, aimed primarily at this group of enterprises (*Ocena luki finansowej ...*, 2013). Table 2 illustrates the results of the research.

Fluctuations in business cycle were very small, bigger fluctuations were present in case of negative gap in medium and large enterprises. Fluctuations – particularly in medium and large enterprises – come before the business cycle; they could also be one of its reasons.

The gap will grow in time with the growth of investment needs of companies. The Institute for Structural Research estimates that financing gap will amount to PLN 15 bn in 2016 and PLN 18 bn in 2020.

Comparative analysis of financing gap and fixed assets gap has shown convergence of trends. (tables 2 and 3).

**Table 3.** Financing gap in Poland – average not execute investments

Size of enterprises	Not execute investments		Gap in %	Share gap in category firm, in %
	Average in PLN	% enterprises		
1. Micro firms	297 664	12,34	67,68	74,62
2. Small	1 020 538	15,92	36,27	11,41
3. Medium	3 200 081	11,63	19,11	6,88
4. Large	21 947 042	8,21	11,13	7,09
Average	378 297	12,44	41,42	100,00

Source: [*Ocena luki finansowej ...*, 2013, p. 47].

In order to deepen the analysis of financing gap in additional cross sections, the results of research conducted in enterprises were used to greater extent. According to them, financing gap concerns investment financing more than current funding (approx. 3 to 1) in amounts, and yet the number of companies experiencing problems because of lack of access to capital and investment financing was similar. The most common reason for financing refusal for micro- and small enterprises was their lack of creditworthiness and lack of guarantees. Leasing was indicated as the most available instrument of external financing, the least available was capital funding, but companies seldom applied for this kind of financing, and even more seldom they managed to acquire it (*Ocena luki finansowej ...*, 2013).

Methodological objections concern primarily the correlation between the fixed assets and the increase of the company's own capital as well as problems with estimation of non-material values, that constitute a significant component of the economic value of an enterprise, but they're difficult to estimate in classic sense.

### 3. Lines of research

In many post-communist countries there is a relatively low level of investment. For instance according to Polish Central Statistical Office only about 17-18 % of SME enterprises in Poland did perform investment activities. Polish SMEs compare to other EU countries had rather poor economic results, the level of innovation of companies was low (Kowalski 2014). Important reasons of this situation are capitalization of SME enterprises and the financing gap. There are also other barriers, that should be removed with the assistance of state institutions.

Periodical estimation of financing gap in SMEs seems necessary both in the context of creating basis for country's economic policy and in the context of UE requirements concerning aid programs. The main problem here is the significant financing gap. At the same time methodology of gap estimation models is still imperfect, as evidenced among others by large dispersion of the results of researches conducted until now (*Measuring the "financing gap" ...*, 2003; *Identyfikacja skali zapotrzebowania...*, 2011; Szot-Gabryś, 2010).

Further research in this area should bring answers to following questions:

- How do we establish boundary conditions for research models and criteria for financing gap researching?
- Which institutions should be engaged in financing gap estimation?
- How often the research should be repeated?
- Who should coordinate the process and who should finance the research?

### Conclusions

Among other barriers for investments in small and medium companies' development – financing gap seems to be a serious problem in many EU countries.

Both financial institutions and state authorities will need some knowledge on the subject to adopt sustainable economic growth policy, but also in the context of EU

requirements concerning aid programs for business. Hence permanent monitoring of the gap in the macroeconomic scale is necessary. Another research problem are forms of financing of SMEs', their accessibility and costs for companies.

Despite all the reservations for imperfection of particular models for financing gap research, they are theoretically correct and they have practical value.

Further research aiming at the improvement of existing gap estimation models is justifiable.

### Literature

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## ▪ Summary

Among other barriers for investments in small and medium companies' development – financing gap seems to be the most serious problem in many EU countries. Both financial institutions and state authorities will need some knowledge on the subject to carry out sustainable economic growth policy, but also in the context of EU requirements concerning aid programs for business. There is a significant financing gap in SMEs in Poland; however different methods of its estimation give very different results. At the same time methodology of gap estimation models is still imperfect, as evidenced among others by large dispersion

of the results. Further research in this area is necessary. Both financial institutions and state authorities will need some knowledge on the subject to adopt sustainable economic growth policy, but also in the context of EU requirements concerning aid programs for business. Hence permanent monitoring of the gap in the macroeconomic scale is necessary. Another research problem are forms of financing of SMEs', their accessibility and costs for companies. Despite all the reservations for imperfection of particular models for financing gap research, they are theoretically correct and they have practical value. Further research aiming at the improvement of existing gap estimation models is justifiable.

### ▪ Streszczenie

Wśród barier inwestowania w rozwój w małych i średnich firmach luka finansowania wydaje się najważniejszym problemem w wielu krajach Unii Europejskiej. Prowadzenie okresowych szacunków luki finansowania MSP jest konieczne; zarówno w kontekście podstaw dla polityki gospodarczej państwa, jak i w kontekście wymogów Komisji Europejskiej dotyczących programów pomocowych dla biznesu. W Polsce występuje znaczna luka finansowania MSP; jednakże różne metody jej szacowania dają bardzo zróżnicowane wyniki. Jednocześnie metodologia badań nad modelami szacowania luki jest niedoskonała, o czym świadczy m.in. duża dyspersja wyników przy zastosowaniu różnych modeli. Potrzebne są dalsze badania w tym obszarze.

**Key words:** financial gap, investment, enterprise, capital sources.

**Słowa kluczowe:** luki finansowe, inwestycja, przedsiębiorstwo, źródła kapitału.

**JEL Clasifications:** G32.