



UW Faculty of Management

Working Paper Series

No 1/ May 2013

**THE CAPITAL STRUCTURE OF POLISH SMALL AND MEDIUM-SIZED
ENTERPRISES AND ITS IMPACT ON THEIR COMPETITIVENESS**

by Robert Wolański

DEPARTMENT OF FINANCIAL AND LEGAL PROBLEMS OF MANAGEMENT

Keywords: SMEs, competitiveness, capital structure

JEL classification: L25, L26

Editor-in chief : Małgorzata Olszak

UW FM Working Paper Series are written by researchers employed at the Faculty of Management of UW and by other economists, and are published by the Faculty.

DISCLAIMER: An objective of the series is to get the research results out quickly, even if their presentations are not fully polished. The findings, interpretations, and conclusions expressed in this Working Paper are those of their author(s) and do not necessarily the views of the Faculty of Management of UW.

© **UW Faculty of Management 2013**. All rights reserved. The papers are written by the authors and should be cited accordingly.

Publisher: University of Warsaw, Faculty of Management Press

Address:

Str.: Szturmowa 1/3; 02-678 Warsaw, Poland

Telephone: +48 22 55 34 164

Fax: +48 22 55 34 001

This paper can be downloaded without charge from:

<http://www.wz.uw.edu.pl/serwisy,witryna,1,dzial,326.html>

Information on all of the papers published in the UW Faculty of Management Working Paper Series can be found on Faculty of Management Website at:

<http://www.wz.uw.edu.pl/serwisy,witryna,1,dzial,326.html>

ISSN 2300-4371 (ONLINE)

The capital structure of Polish small and medium-sized enterprises and its impact on their competitiveness

Robert Wolański PhD^a

Abstract

The article discusses the problem of the relationship between the capital structure and the level of competitiveness of SMEs in Poland. The objective of the article is to determine the impact capital structure has on the level of competitiveness of SMEs in Poland. The capital structure of SMEs is dominated by internal funds. Among external sources of financing, bank loans and leasing are predominant. This structure is consistent with the relevant theoretical models. The study shows no significant differences in the financing of current operations, innovation, and competitiveness improvement. The lack of relationship indicates that the capital structure of SMEs has little impact on their competitiveness. The results of the study demonstrate that all external sources of financing improve the competitiveness of SMEs, but the strength of their impact is different. The strongest impact is shown for venture capital, guarantees, and leasing; the weakest – for bank loans and the issuance of shares and bonds. A significant factor is the degree of alignment of a particular financing source with the special needs of SMEs. This significant relationship is demonstrated for all the sources most commonly used by SMEs

JEL classification: L25, L26

Keywords: SMEs, competitiveness, capital structure

^a Zakład Finansowo-Prawnych Problemów Zarządzania, Faculty of Management, University of Warsaw,
e-mail:rwolanski@wz.uw.edu.pl

Contents

Abstract.....	3
1. Introduction	5
2. The hierarchy of sources of financing in small and medium-sized enter'prises.....	5
3. Study of small and medium-sized enterprises	9
4. The capital structure of Polish small and medium-sized enterprises	9
5. Capital structure and the level of competitiveness of small and medium-sized enterprises	11
6. Conclusions	13
References	14

1. Introduction

The present article studies the connection between the capital structure and the level of competitiveness of small and medium-sized enterprises^b (SMEs) in Poland. The objective of the article is to determine the nature of the capital structure of Polish SMEs, to demonstrate the impact this structure has on the competitiveness of these enterprises, and to isolate factors that significantly influence the strength of this impact. The data used for determining the above relationships comes from a survey of SMEs conducted by the author and from an analysis of the available literature.

2. The hierarchy of sources of financing in small and medium-sized enterprises

One of the basic conditions for the operation of any enterprise is for it to have sufficient funds required to conduct its business activities. Any decision taken by an enterprise has an impact on its financial position. The capital employed is the driving mechanism of any business. Without the right amount of capital involved no enterprise can develop or even stay on the market.

Each company uses various types of capital. That is why determining the capital structure is so important. Given the existence of alternative means of financing, an enterprise chooses sources of financing guided by its own hierarchy of these sources. An important objective of business research is to determine the reasons used by businesses for choosing a particular structure of financing. Correspondingly, a whole number of theoretical approaches have been developed related to the analysis of decisions on sources of financing. Knowledge of these approaches is indispensable if one is to understand how SMEs and financing entities relate to each other. Below we present the main arguments and conclusions of the most influential theoretical and research papers devoted to this subject.

Studies on capital structure can be said to have begun in 1958, when F. Modigliani and M. H. Miller published their article (Modigliani and Miller 1958). The authors' attempts to link together the issues of capital cost, capital structure, and valuation, based on the neoclassical theory of company finance, inspired much of subsequent research in this field. Due to its assumptions, particularly those concerning full access to information, price independence, and lack of costs, the theory cannot be applied to SMEs.

Another concept related to the structure of financing developed by many authors refers to the business life cycle. The main assumption here is that the development of businesses happens in cycles and that they all go through similar phases. Each phase of development is associated with particular means of financing, and the transition to the following phase of the life cycle requires specific financing. Below we present the characteristics of financing at the key stages of business development based on the business life cycle models put forward by chosen authors (Quinn and Cameron, 1983, Churchill and Lewis 1983, Scott and Bruce 1987).

The authors distinguish five phases in the business life cycle, specifying the financing structure for each phase.

- 1) The first phase is business start-up. The main source of financing is company's own equity formed from the owner's funds and loans from family and friends. For innovative projects, financing can also come from venture capital funds.
- 2) The second phase is business survival. Sources of financing remain the same as in the start-up phase. In addition, basic external sources of financing come into play: the enterprise can apply for and make use of trade credit, leasing, and short-term bank loans.

^b The term 'small and medium-sized enterprises' (SME), as used in the present article, applies to micro-enterprises, small enterprises, and medium-sized enterprises.

- 3) The third phase is business growth. At this stage, profits begin to play a crucial role, as development entails higher profitability. In addition to leasing and short-term bank loans, the enterprise can apply for long-term bank loans. Loans can also be obtained from the non-banking sector. Credit guarantees are particularly popular with SMEs. Further development often requires an increase in equity through attracting new partners or shareholders. In the case of SMEs, this source of financing is frequently overlooked, as it involves partial loss of control over the enterprise by the original owner. The price of such behaviour is slower business growth.
- 4) The fourth phase is business expansion. As profits grow, the enterprise is increasingly able to obtain external capital. In contrast to the previous period, the enterprise can now benefit from factoring and the issuance of shares and bonds. As a consequence, it can use any source of financing, the choice depending on the company's financial policy, the owner's preferences, and the condition of the market.
- 5) The fifth phase is business maturity. Company profits are stabilized. As in the previous phase, the enterprise can use all sources of financing.

The authors emphasize that, as an enterprise moves to the following phase of the business life cycle, financing from different sources can be obtained more readily and at a lower cost; they also point out that enterprise financing differs from phase to phase.

Further concepts that are worth noting are the agency theory (Jensen and Meckling 1996) and the transaction cost theory (Williamson 1975). The theories see external financing as a factor that mitigates conflicts between the owners and management of an enterprise. It follows from the fact that a financing entity exerts some control over the enterprise. In most cases, funds are raised for a specific purpose, e.g. to finance a particular project, so the lending institution checks the validity of the project and its future results. Generally speaking, external capital monitors the activities of the enterprise, thereby providing its owners with greater confidence. With this in mind, the above assumptions apply primarily to larger companies operating in the form of legal entities, which excludes most SMEs. On the basis of the two theories, various conclusions have been drawn concerning SME financing. It has been pointed out that it is important what kind of SME asset is being financed. Assets that are considered specific to a particular SME and do not have a high value outside of the enterprise are treated differently from assets that have a general market value. Financing institutions will prefer the latter asset type, and in this case external capital will be readily available. Financing of the former asset type requires tighter control, so in this case investment in the company equity will be preferred (Kochlar 1996).

Related to the abovementioned theories is the concept of asymmetric information (Binks, Ennew, Reed 1992), which is of great importance for SME financing. The concept recognizes that the owner of a financed enterprise and the financing entity have different levels of access to information about the enterprise; the amount of information available to them is also different. The owner of a SME has a much broader knowledge about the prospects of the enterprise and the expected amount of profit or the possibility of loss resulting from engagement in a particular project than the entity financing the project.

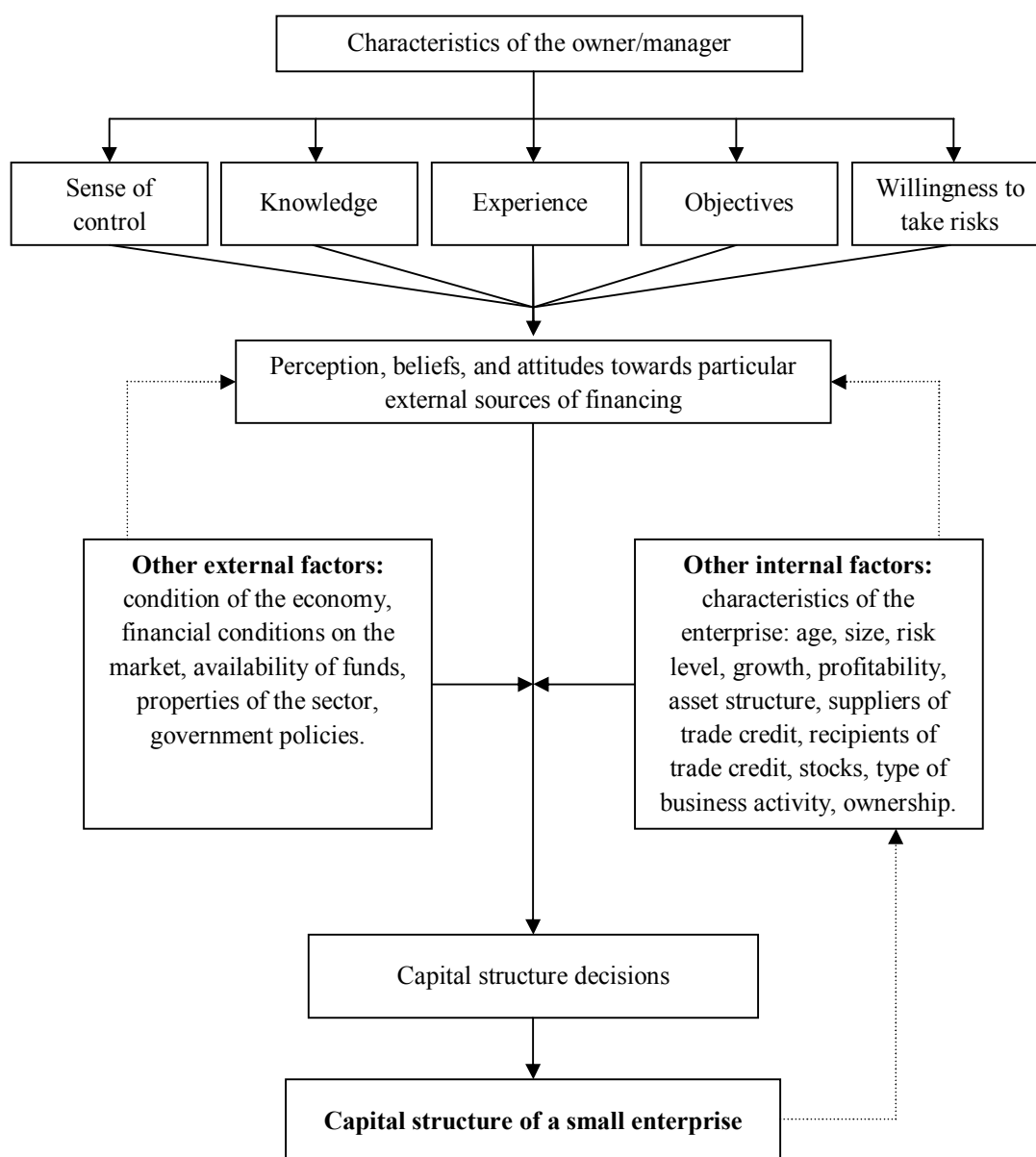
As a result, the financing entity, as opposed to the entrepreneur, is unable to properly assess the prospects of the enterprise and the risks arising from the implementation of a particular project. Being aware that the potential borrower has better access to information, the financing entity tends to propose terms and conditions that are different from situations where both parties have equal access to information. This behaviour stems from the apprehension that the borrower may misuse their advantage to further their own goals.

The SME sector is particularly vulnerable to being treated in such a way by financing entities. Many small businesses do not keep books, their records are simplified, and they often pay lump-sum taxes. Correspondingly, the information they can offer to financing entities is much more limited as compared with large companies. In view of higher risks for a financing entity, SMEs are offered less favourable financing conditions expressed as higher profit margins, additional

securities, more detailed control. This situation undermines the resources and interests of SMEs, which seek to minimize costs, cannot provide the required sureties, and resent control over their activities. As a result, it is difficult for SMEs and financing institutions to reach an agreement on the terms of financing; the possible lack of mutual trust renders the situation even worse.

Figure 1.

Model of capital structure decision-making in a small or medium-sized enterprise (after M. Nicos, F. Chittenden, and P. Poutziouris).



Source: M. Nicos, F. Chittenden, P. Poutziouris, A model of capital structure decision making in small firm, *Journal of Small Business and Enterprise Development*, vol. 5, no. 3, 1998.

Another approach to the structure of SME financing is based on strategic management. The essence of this concept is the recognition of multiple factors affecting the financing structure of an enterprise. It takes into account both financial and non-financial factors, the enterprise itself, and its environment. According to the relevant (Barton and Matthews 1989, Nicos, Chittenden, Poutziouris

1998, Barton and Gordon 1998), factors affecting the structure of SME financing can be divided into three main groups:

- characteristics of the SME owner,
- nature of the enterprise,
- characteristics of the market where the enterprise operates.

In each of these three areas, one can identify factors affecting the financing of SMEs and the links and interdependencies between them. A model created on the basis of strategic management and considers the three groups of factors is presented in Figure 1.

The last concept pertaining to the principles of SME financing to be discussed here is the pecking order theory put forward by S. C. Myers (Myers 1984). The theory considers the reasons behind enterprises selecting a particular financing structure; the assumption is that enterprises choose sources of financing in a particular order and do not try to maximise the value of the enterprise. This assumption is particularly true for SMEs, which often do not have the opportunity to choose sources of financing that would lead to an optimization of the capital structure and maximization of the company value. According to this theory, enterprises choose sources of financing in the following order:

- 1) Internal sources of financing (e.g. retained profit, own funds).
- 2) Debt securities (e.g. issuance of bonds, taking out a bank or non-bank loan).
- 3) Hybrid securities (e.g. convertible bonds).
- 4) Equity securities (e.g. issuance of stocks or shares).

The theory suggests that enterprises give preference to internal sources of financing. Only if internal sources are not sufficient do they reach for external sources. When choosing external sources, enterprises are driven by the desire to minimize their dependence on the financing entity.

On the basis of the theories discussed above, their common features and the most important observations, one can propose the following general theoretical principles of the SME financing structure.

- 1) Financial decisions taken by SMEs depend on numerous factors, and in particular:
 - the owner's approach to the means of SME financing based on their personality traits, behaviour, desires, and predispositions,
 - current stage of the SME development,
 - environment in which the SME operates, especially the attitudes of financing entities,
 - characteristics of the SME itself, e.g. the industry sector, level of innovation and competitiveness.
- 2) SME use financing sources in a certain order. Although the order may be influenced by numerous factors, some generalizations apply to all small enterprises to some extent or other. One can identify the following tendencies:
 - SMEs use internal funds first, and reach out for external capital only if their own resources are not sufficient. This follows, firstly, from the negative consequences that external financing can have for SMEs: limited independence, being controlled by the financing entity, financing costs. Secondly, it is important to consider the attitude of the financing entity, e.g. lack of trust, lack of complete information.
 - When SMEs use external sources of financing, they choose short-term financing sources before long-term ones. This limits their dependence on financing entities. In its turn, the financing entity is exposed to a smaller risk (due to a less significant effect of asymmetric information).
 - As a last resort, SMEs use external financing that results in a limitation of the owner's control over the enterprise. This happens when the financing entity becomes a co-owner of the SME to a medium or large extent, e.g. when financing is provided by venture capital funds.

3. Study of small and medium-sized enterprises

The capital structure of Polish small and medium-sized enterprises and its impact on the level of their competitiveness will be discussed on the basis of a study of SMEs conducted by the author. The study employed the technique of computer-assisted personal interviewing (CAPI) conducted on the respondents' premises. It was performed on a sample of 223 companies, including 99 micro-enterprises, 70 small enterprises, and 54 medium-sized enterprises. The study is representative with respect both to the business location and the business sector. Due to the scale of the study, the field work was conducted by a survey company. The interviewing was carried out in the period from May 10th to June 10th, 2010. Considering the fact that the sample structure did not reflect the population structure with respect to enterprise size, the data have been weighted to make the sample representative and to achieve reliable results.

4. The capital structure of Polish small and medium-sized enterprises

The starting point for identifying the capital structure of Polish SMEs is determining the frequency of use of different financing sources. The results of the relevant study are presented in Table 1.

Table 1.

Frequency of use of financing sources

	regularly	sporadically	never
own equity	73%	23%	4%
bank loans	13%	39%	48%
leasing	6%	31%	63%
EU subsidies	2%	10%	88%
budget subsidies	1%	8%	91%
factoring	1%	1%	98%
loans from loan funds		8%	92%
guarantees given by guarantee funds		3%	97%
issuance of shares or bonds		2%	98%
money from venture capital funds		1%	99%

Source: own data.

The main source of SME financing is their own equity – almost all SMEs make use of this source. External sources are used much less frequently, and are mostly represented by bank loans followed by leasing. Other external sources are less predominant than these two, and are used on a small scale.

In view of the above financing structure, one should determine why SMEs hardly use external sources of financing. The study indicates that SMEs do not see the need for external financing, as shown in Table 2.

Table 2.

Percentage of enterprises that do not make use of a given financing source due to the lack of need

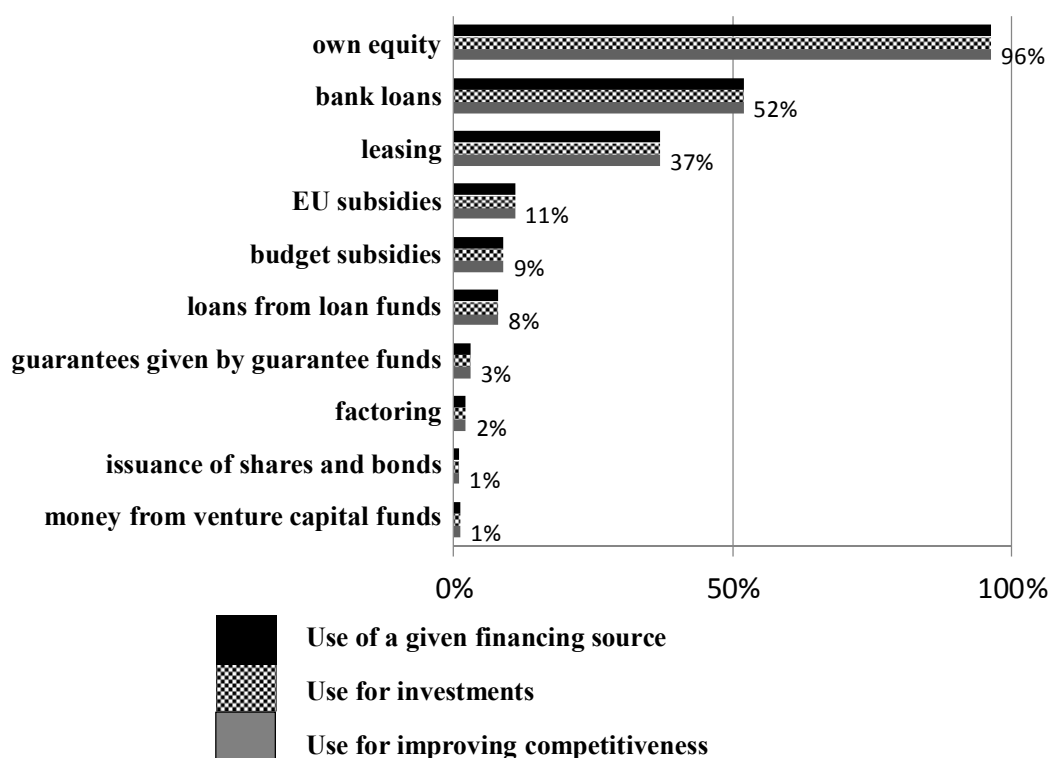
bank loans	67%
leasing	86%
EU subsidies	40%
budget subsidies	60%
factoring	85%
loans from loan funds	70%
guarantees given by guarantee funds	73%
issuance of shares or bonds	78%
money from venture capital funds	70%

Source: own data.

It seems that this situation stems from the fact that financial needs in the SME sector are relatively small and can be covered from own equity.

It is important to identify the sources of financing of measures aimed at improving competitiveness. In the opinion of the enterprises surveyed, investment activities and measures aimed at increasing a company's competitiveness are closely linked. For this reason, the sources of their financing overlap. At the same time, funds raised for these purposes come from essentially the same sources as funds used to finance current operations. The pertinent data is presented in Figure 1. The instruments most commonly used to finance investments and improve competitiveness are: own equity, bank loans, and leasing.

Figure 1. Use by SMEs of external sources to finance investments and improve competitiveness; n=223



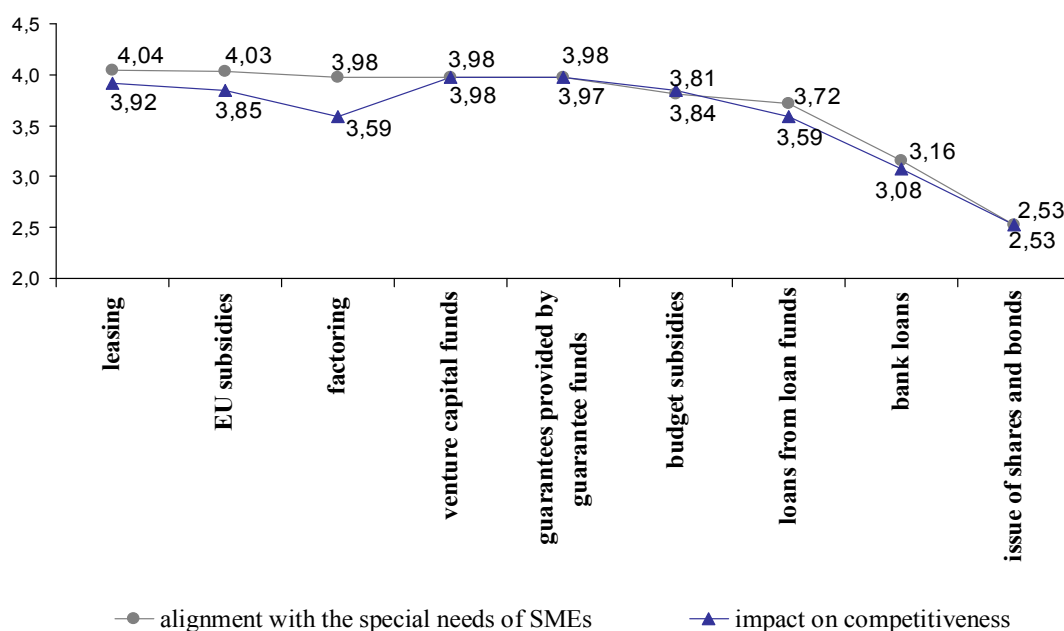
Source: own data.

The results of the studies presented in Table 1 and Figure 1 do not differ. This means that the purpose of financing does not affect the choice of the source of financing. The capital structure of the surveyed enterprises remains largely the same when financing various needs.

5. Capital structure and the level of competitiveness of small and medium-sized enterprises

The study evaluates the impact that different sources of financing have on the competitiveness of the SMEs surveyed (on a scale from 1 - low impact to 5 - high impact). The impact is juxtaposed with the degree of alignment of these sources of financing with the special needs of SMEs. The data are presented in Fig. 2.

Figure 2. Impact of different sources of financing on the competitiveness of SMEs compared to the alignment of the sources with the needs of SMEs



Source: own study.

All the enumerated sources of financing improve the competitiveness of the SMEs surveyed. They can be divided into the following groups according to the strength of their impact:

- sources that have a high impact on the competitiveness of SMEs (impact in the range of 3.6-4.0): guarantees, venture capital, leasing, EU subsidies, budget subsidies;
- sources that have a medium impact on the competitiveness of SMEs (impact in the range of 3.2-3.6): factoring, loans;
- sources that have a low impact on the competitiveness of SMEs (impact below 3.2): credits, issuance of shares and bonds, the impact of credits being considerably higher.

The highest impact can be shown for funds coming from venture capital (3.98), guarantees provided by guarantee funds (3.97), and leasing (3.92). In the case of guarantees, the relationship is surprising, since they do not in themselves have such a direct impact on an increase in competitiveness as does leasing or venture capital. This is explained by the fact that guarantees are

mainly used by micro-enterprises, which have the most difficulty in obtaining external financing; guarantees enable them to solve the problem. It is therefore a situation specific to the SME sector.

The lowest impact on an increase in competitiveness is shown for the issuance of shares/bonds and bank loans. Bank loans, which constitute the main external source of SME financing, are used primarily to cover current needs. In other words, SMEs resort to bank loans due to factors other than improving competitiveness, business growth, innovation, or investment. It can be assumed that the use of banks loans is mostly due to the fact that SMEs use other banking products, they stay in regular contact with their banks, and there is a close relationship between the bank and the enterprise.

As far as the degree of alignment with the special needs of SMEs is concerned, the best results are demonstrated for leasing and EU subsidies; venture capital, guarantees, and factoring rank slightly lower. Bank loans and proceeds from the issuance of shares and bonds are the worst in this respect.

By and large, the impact of a given source of financing on the competitiveness of enterprises is similar to the level of its alignment with the special needs of SMEs. The biggest difference between the two indices is found in the case of factoring, whose alignment with the needs of SMEs is assessed as noticeably higher than its impact on competitiveness. With this in mind, we have examined whether there is a statistical relationship between the degree of alignment of a given financing source to the needs of SMEs and the strength of its impact on their competitiveness. For this purpose, we have calculated Pearson's coefficient of correlation between these variables and examined the bilateral significance for these correlations. Correlation coefficients are significant if the level of significance is 0.05 or less; in this case, one can conclude that there is a relationship between variables. A significance level below 0.01 indicates a very statistically significant correlation. For significant correlation coefficients, the strength of relationship is defined as follows:

- weak correlation (correlation coefficient within the range of 0.2-0.4),
- moderately strong correlation (correlation coefficient within the range of 0.4-0.7),
- strong correlation (correlation coefficient within the range of 0.7-0.9),
- very strong correlation (correlation coefficient within the range of 0.9-1).

The relationships have been determined on the basis of the study results pertaining to companies that have used a particular source of financing. Given the limited use by enterprises of venture capital, factoring, issuance of shares/bonds, and guarantees received from guarantee funds (and, correspondingly, the limited number of samples – only 2 to 6 enterprises have used these sources), the results for the said sources of financing may not be fully reliable. The relationship between the degree of alignment of a given source of financing with the special needs of SMEs and the strength of its impact on the competitiveness of SMEs is presented in Table 2.

Table 2.

Relationship between the degree of alignment of a financing source with the special needs of SMEs and the strength of its impact on the competitiveness of SMEs

Degree of alignment of bank loans with the special needs of SMEs	Impact of bank loans on improving SME's competitiveness	Pearson's correlation Significance (bilateral) n	0.680 0.000 116
Degree of alignment of loans with the special needs of SMEs	Impact of loans on improving SME's competitiveness	Pearson's correlation Significance (bilateral) n	0.835 0.000 17
Degree of alignment of guarantees with the special needs of SMEs	Impact of guarantees on improving SME's competitiveness	Pearson's correlation Significance (bilateral) n	0.557 0.256 6
Degree of alignment of leasing with the special needs of SMEs	Impact of leasing on improving SME's competitiveness	Pearson's correlation Significance (bilateral) n	0.465 0.000 83
Degree of alignment of EU	Impact of EU subsidies on	Pearson's correlation Significance (bilateral)	0.675 0.000

subsidies with the special needs of SMEs	improving SME's competitiveness	n	23
Degree of alignment of budget subsidies with the special needs of SMEs	Impact of budget subsidies on improving SME's competitiveness	Pearson's correlation Significance (bilateral) n	0.849 0.000 19
Degree of alignment of venture capitals with the special needs of SMEs	Impact of venture capital on improving SME's competitiveness	Pearson's correlation Significance (bilateral) n	1.000 - 2
Degree of alignment of factoring with the special needs of SMEs	Impact of factoring on improving SME's competitiveness	Pearson's correlation Significance (bilateral) n	-0.900 0.891 5
Degree of alignment of the issuance of shares/bonds with the needs of SMEs	Impact of the issuance of shares and bonds on improving SME's competitiveness	Pearson's correlation Significance (bilateral) n	1.000 0.000 6

Source: own data.

The results show a very significant correlation for bank loans, loans, leasing, EU subsidies, budget subsidies, and the issuance of shares and bonds – exhausting all the financing sources for which there are sufficient sample sizes. In the remaining cases, the relationship is not significant or there is no basis for its determination. For the five kinds of financing sources, the correlation strength was as follows:

- moderately strong correlation for leasing, EU subsidies and bank loans,
- high correlation for loans and budget subsidies,
- very high correlation for the issuance of shares and bonds.

Generally, it should be acknowledged that the degree of alignment of a financing source with the special needs of SMEs is of great importance for its impact on the competitiveness of these enterprises. This is confirmed by the fact that a significant relationship between the two factors has been demonstrated for all the financing sources that SMEs use the most. The relationship is moderately strong or strong.

6. Conclusions

On the basis of the analysis, the following generalisations can be made as to how the financing structure of SMEs relates to their competitiveness.

1. The distinctive characteristic of the SME capital structure is that own funds predominate, while external financing is mostly in the form of the most recognisable and widely available sources of funds such as bank loans or leasing. This structure is consistent with the theoretical models presented in the first section of the present article. SMEs are not actively engaged in searching for financing sources that would enable them to optimise the capital structure and pursue business growth and an increase in competitiveness.
2. Sources of financing do not show significant differences depending on the purpose of financing. This means that the capital structure of SMEs has little impact on their competitiveness.
3. According to the SMEs surveyed, all the sources of financing we have discussed improve their competitiveness, albeit to a different degree. Venture capital, guarantees, and leasing have the highest impact, whereas bank loans and the issuance of shares and bonds have the lowest impact.
4. The strength of the impact that a given source of financing has on the competitiveness of SMEs depends largely on how well this source is aligned with the special needs of SMEs. This relationship is significant for all the sources most commonly used by SMEs.

References

- Barton, S. L., Gordon, P. J. (1998). "Corporate Strategy and Capital Structure", *Strategic Management Journal*, vol. 9, 623–632.
- Barton, S. L., Matthews, C. H. (1989). "Small Firm Financing: Implications from a Strategic Management Perspective", *Journal of Small Business Management*, vol. 27, no. 1, 1–7.
- Binks, M. R., Ennew, C. T., Reed, G. V. (1992). "Information Asymmetries and the Provision of Finance to Small Firms", *International Small Business Journal*, vol. 11, nr 1, 35-43.
- Churchill, N. C., Lewis, V. L. (1983). "The Five Stages of Small Business Growth", *Harvard Business Review*, vol. 63, no. 3, 30–50.
- Jensen, M., Meckling, W. (1996). "Theory of the firm: Managerial behaviour, agency costs and ownership structure", *Journal of Financial Economics*, nr 3 (4), 305-360.
- Kochlar, R. (1996). "Explaining firm capital structure: The role of agency theory vs transaction cost economics", *Strategic Management Journal*, vol. 17, 713-728.
- Modigliani, F., Miller, M. H. (1958). "The Cost of Capital Corporation Finance, and the Theory of Investment", *American Economic Review*, June.
- Myers, S. C. (1984). "The Capital Structure Puzzle", *Journal of Finance*, vol. 39, no. 3, 575-592.
- Nicos, M., Chittenden, F., Poutziouris, P. (1998). "A model of capital structure decision making in small firm", *Journal of Small Business and Enterprise Development*, vol. 5, no. 3.
- Quinn, R. E., Cameron, K. (1983). "Organizational Life Cycle and Shifting Criteria of Effectiveness: Some Preliminary Evidence", *Management Science*, vol. 29, no. 1, 33-51.
- Scott, M., Bruce, R. (1987). "Five Stages of Growth in Small Business", *Long Range Planning*, vol. 20, no. 3, 45–52.
- Williamson O. E. (1975). "Markets and Hierarchies", *The Free Press*, New York – London.