



Business Economics and Management 2015 Conference, BEM2015

## Agency Costs in Small and Medium Wood Industry Enterprises with Full Operating Cycle and Cash Levels

Grzegorz Michalski<sup>a,\*</sup>

<sup>a</sup> Wroclaw University of Economics, Komandorska 118, Wroclaw, 53-345, Poland

---

### Abstract

Agency costs conception has moderating influence on decisions made in small and medium enterprises. A smaller amount of information available on small and medium-sized enterprises compared to information on large entities results in an increase in the cost of external capital. This phenomenon is called information asymmetry. It occurs when the various parties to the transaction (e.g., debtor and creditor) have different information on the subject relevant to the transaction (e.g. on the risk associated with the company). Agency conflict can also be more noticeable in companies where the owners are liable with all their assets for the actions of partners. At the end, such conflict is present between owner of the company and supplier of capital. If a small or medium-sized enterprise is financed by capital from friends, the cost of agency conflicts are lower and thus the cost of financing is lower. In paper such moderating influence is analyzed in wood industry firms with full operating cycle and cash levels. Analysis is illustrated by empirical data collected from firms operating in Slovakia, Poland and in surrounding countries.

© 2015 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the Organizing Committee of BEM2015

*Keywords:* agency costs; small and medium firms; wood industry enterprises; full operating cycle; cash levels

---

### 1. Introduction

Cash levels works in a firm as a hedging instrument against a risk. If there is no risk, no cash levels are needed. Hence, a small or medium-sized company is not a smaller version of a large enterprise (Welsh and White 1981),

---

\* Grzegorz Michalski. Tel.: +48503452860

E-mail address: [Grzegorz.Michalski@gmail.com](mailto:Grzegorz.Michalski@gmail.com)

most ways of operation of small and medium-sized enterprises are completely different from the methods used in a large company Michalski (2015), Bartak and Gavurova (2014), Bem et al. (2014a), Kulhanek and Uherek (2003).

The personality and habits of the owner is the key to understanding why they act so. Such personality influence the way the firm treats its cash levels. Decisions in cash management are a result of mix of hard facts about economics and ‘soft’ influences of personality of managing team of the firm. That is internal characteristic of the firm that has its source in economic environment.

The personality of the owner of a small or medium-sized business is often related to its activities in the financial sphere. There are even threats for intuitive decision-making in moments, when grab a calculator is the most appropriate thing to do. The owners of small and medium-sized companies often finance their business by equity. In the initial phase of the company the funds come from personal or family savings, and in later phases - from retained earnings. The most common reason for using more expensive capital, which is equity, is a simple unwillingness of the company owner to use debt. The owner fears the dependence on external capital, Luczka (1997). The reason for such concerns is that the use of debt may entail the loss of independence.

Reluctance to finance the activity from external capital is strengthened by the belief that it is relatively more expensive for a small or medium-sized enterprises than for large companies. The rate of cost of external capital available to small and medium-sized enterprises is affected by: higher risk, conflict of agency and less information, Bem et al. (2014b), Gavurova (2012), Michalski (2014), Mura et al. (2015), Qineti et al. (2011).

Higher risk of "small loan" is a result of a relatively higher probability of financial difficulties than in the case of large companies. The risk is "the probability of obtaining a result other than expected" (but probability of obtaining a result worse than expected is called a threat, and the probability of for a result better-than-expected is an opportunity). Incurring such risk by the capital donor is accompanied by the need to increase the cost of capital by the bonus for risk, Bem et al. (2014c), Gavurova et al. (2014), Michalski (2009), Raisova et al. (2014), Soltes (2010).

The costs of agency conflict for small and medium-sized enterprises are lower than those found in large enterprises. Agency costs are incurred in connection with the existence of the agency problem and the result of the need to monitor the management by the owner. Another aspect of agency costs is all kinds of costs arising from creditors who protect themselves against owner's actions that are adverse to them. Small and medium-sized companies are usually directed by the owner and it reduces losses arising from the agency costs. This should be measured by the capital donor, relatively reducing the cost of debt, Gavurova and Hyranek (2013), Michalski (2012), Soltes and Gavurova (2013), Svidronova (2013), Uzik and Soltes (2009).

A smaller amount of information available on small and medium-sized enterprises compared to information on large entities results in an increase in the cost of external capital. This phenomenon is called information asymmetry. It occurs when the various parties to the transaction (e.g., debtor and creditor) have different information on the subject relevant to the transaction (e.g. on the risk associated with the company).

Considering the characteristics of small and medium-sized companies, it is worth quoting the definition proposed by the Institut für Gewerbeforschung from Vienna. In accordance to the definition small and medium-sized enterprises are characterized by Luczka (2001) some factors. Therefore, the interest rate of external capital available for a small business can be summarized as follows:

- owner's personal autonomy, resulting from the ownership of capital and company running - the fact that the company is the main and often the only source of income and the basis for the existence of the owner,
- personal work and full responsibility of the owner who bears the entire risk
- family work,
- personal relationship between the owner and the employees, which result in a community of work characterized by strict mutual contacts,
- that the upper limit of the size of the company is determined by the opportunity to grasp by the owner all of its affairs in such a way that he controls all the activities taking place in the enterprise and effectively monitors them,
- that the lower limit of the size of the company is determined by the owner's requirements arising from the need for full employment and to achieve an adequate income,

- advantage in the financing of own and family funds, with the possible supply by personal loans and special credit actions in the absence of direct access to the capital market,
- that sole proprietorship or personal partnership is the most common legal form,
- reduced possibility to divide the labor within the company,
- greater ease and speed of adjustment to economic fluctuations,
- that the company generally does not employ professionals Luczka (2001). .

## 2. Material and Methods

Based on previous considerations we conclude that to test small and medium-sized companies each time we may need to carry out a personal interview with the owner, before his company will be qualified for the relevant group. To avoid this, quantitative criteria were developed that allow for approximate qualification the given enterprise to the appropriate group, Michalski (2013), Soltes and Gavurova (2014), Soltes and Rusnakova (2013), Gavurova (2011), Vacekova and Svidronova (2014)..

Small and medium-sized enterprises have completely different ways to solve the classical financial problems that also occur in large enterprises. Like already mentioned, due to the fact that the owner of a small or medium-sized enterprise usually manages it or represents a significant part of the management team, the potential conflict of agencies: owner-managers is eliminated. However, it is possible, that agency conflicts will emerge more strongly in other places in the relationship: the owner (family owner) employees (non- family). All the more, owner takes on a much higher risk than the managers in large enterprises. Agency conflict can also be more noticeable in companies where the owners are liable with all their assets for the actions of partners. At the end, such conflict is present between owner of the company and supplier of capital. If a small or medium-sized enterprise is financed by capital from friends, the cost of agency conflicts are lower and thus the cost of financing is lower. If capital providers do not know the owner of a small or medium-sized enterprise much, the relative costs of obtaining information about him and his company and the costs of monitoring the situation and actions are much higher than for large enterprises that obtain higher amounts of capital.

The agency costs are related to the collection of information on small and medium-sized enterprises. Here we have a double asymmetry of information. First, the owner of a small or medium-sized enterprise is much better informed about the situation of own company than the potential capital-donors (Ang 1992). This kind of asymmetry of information raises far more serious problems than in the case of large enterprises because:

- fixed cost of collecting information about transactions involving small and medium-sized enterprises is relatively higher for capital providers than a fixed cost associated with large transactions;
- for small and medium-sized enterprises suppliers of capital have to deal with fewer recurring transactions;
- opportunities to subcontract less specialized agencies to obtain financial information for small and medium-sized enterprises, which due to the fact that the market for such services is also narrow;
- small and medium-sized enterprises have fewer tools to validate the information generated by them;
- information from small and medium-sized enterprises has low quality and is not standardized, because they are neither legally nor institutionally obliged to specific forms of data collection and processing all the information that might be of interest to capital supplier, and even if they attempted to conform to the requirements of capital provider, then the incompleteness of executives that occurs often in the small and medium-sized enterprises could cause errors in such reporting.

According to our consideration mentioned above with compliance of Ang (1992) findings, in small and medium-sized enterprises the owner himself is the most responsible for the management of financial assets and short-term liabilities. It is quite rarely found that managerial authorities are delegated to others. This is one of the most important elements that distinguishes the style of the net working capital management in a small or medium enterprise from its management in in large enterprises. The positive effect is that the with regard to net working capital management in small or medium enterprise the owner (i.e. the person most interested in business success) is responsible for the level of liquidity and decisions related to the management area. There are no negative effects arising from the conflict of the agency. However, there is also a certain risk as a result of a possible lack of professionalism of the owner of small or medium-sized enterprises in the area of net working capital management. For example, because of the excessive focus on marketing or any other sphere of business activity there is a risk that

the owner makes unfavorable decision from the point of view of the best cash levels or opinion about the optimal liquidity management. The short-term financial management is related to both financial and (apparently) non-financial decisions. Sale of finished goods on trade credit is related to the use of knowledge in the field of debt management and of marketing. If the owner of a small or medium-sized enterprise is strongly directed to marketing techniques of sales increase, he may ignore the financial risks arising from too liberal policy of granting trade credit. In some cases when weakened relationships with customers may lead to serious consequences for small or medium-sized enterprise. Most often, much more often in the case of medium-sized enterprises than for large companies, direct owner's knowledge of the customer is important. Transferring many functions related to the management of accounts receivable and trade credit sales to factor weakens this relationship. There also is a threat of the problem of agency and information asymmetry.

For the illustration is used data collected from AMADEUS (Database Amadeus product of Bureau van Dijk). Data is for 2010 – 2013 and is collected for firms which operate in branch 16: manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials. Collected data is for 6870 firms that operate in countries: Austria, Belarus, Czech Republic, Germany, Hungary, Lithuania, Poland, Slovakia, Ukraine. At first, there is analyzed situation in cash levels to total assets for wood processing small firms from Austria, Belarus, Czech Republic, Germany, Hungary, Lithuania, Poland, Slovakia, Ukraine on the background of whole population of wood processing firms from these countries. Next there is illustration based on cash levels to total assets for wood processing small firms from Slovakia on the background of whole population of wood processing firms from Slovakia. Finally illustration shows situation in cash levels to total assets for wood processing full operating cycle small firms from Austria, Belarus, Czech Republic, Germany, Hungary, Lithuania, Poland, Slovakia, Ukraine on the background of whole population of wood processing full operating firms from these countries and illustration that shows situation in cash levels to total assets for wood processing full operating cycle small firms from Slovakia on the background of whole population of wood processing full operating firms from Slovakia.

### **3. Results and Discussion**

Activities of small and medium-sized enterprises are a reflection of cycles performed by them: investment, operational and financial. The first of these, the operating cycle is the time required for the purchase and converting materials, raw materials, energy and labor into finished products (or services), making the sale and recover the receivables from sales of enterprise's finished goods (or services).

The next cycle, the financial one, is the time needed for the purchase (sale) of financial instruments until reaching assumed target or benefit resulting from the fact of having (not having) them, and then selling (purchasing) them. The last cycle, investment, is the time needed for the purchase and processing of materials, raw materials, energy and labor into ready property investments for the implementation of the enterprise's operating cycle. The owner of a small or medium-sized enterprise acquires fixed assets and working capital to carry out operating cycle.

Performing basic operations, he achieves certain financial results, which allow him to expand his wealth. He can also use external financing for these purposes. Business operations carried out by small or medium-sized enterprise are reflected in the synthetic form in the balance sheet and profit/loss account. Data used for the illustration in the paper is taken from statements of wood processing full operating cycle small firms from Austria, Belarus, Czech Republic, Germany, Hungary, Lithuania, Poland, Slovakia, Ukraine. The balance statement contains resource amounts, while the profit/loss account - streaming amounts. Flows shown in the profit/loss account are not synchronized. Recipients usually finalize liabilities with a delay. Therefore, part of the real flows will be shown in the form of cash and part as a resource in the form of receivables. The difference between the physical flow of products, goods and materials and financial instruments flows at the end of the reporting period is shown in enterprise's resource and in their funding sources included in the balance sheet. Profit and loss account reflects the physical flows. It shows the operating cycle of the enterprise and some of the operations of the investment and financial cycles.

Table 1. Cash levels to total assets for wood processing small firms from Austria, Belarus, Czech Republic, Germany, Hungary, Lithuania, Poland, Slovakia, Ukraine on the background of whole population of wood processing firms from these countries. Source: own study based on data from 6870 wood processing manufacturing firms reported in Database Amadeus product of Bureau van Dijk, [date: 2015 SEP 10]

	2013	2012	2011	2010
SMALL (1306)	8,99	8,73	9,73	9,46
ALL (6870)	10,39	10,15	10,59	10,41

In table 1 and Fig 1 are presented average levels of cash to total assets for wood processing firms operating in Slovakia, Poland and surrounding countries. As we can see, there is clear difference between whole population of these firms and small firms. Cash to total assets levels for small wood processing firms are lower than for general population of 6870 wood processing firms.

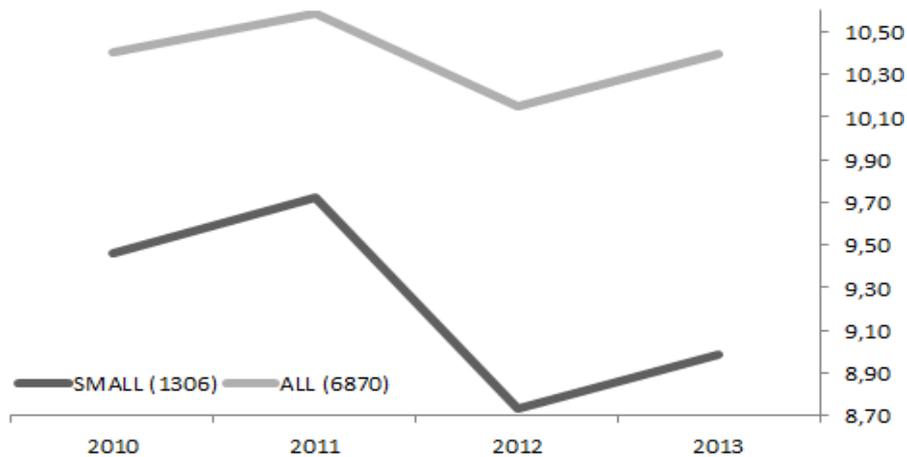


Fig. 1. Cash levels to total assets for wood processing small firms from Austria, Belarus, Czech Republic, Germany, Hungary, Lithuania, Poland, Slovakia, Ukraine on the background of whole population of wood processing firms from these countries. Source: own study based on data from 6870 wood processing manufacturing firms reported in Database Amadeus product of Bureau van Dijk, [date: 2015 SEP 10]

Here there is no difference nor distinction between full operating cycle firms and firms without full operating cycle. In case of firms without full operating cycle, level of operational risk is smaller than in forms with full operating cycle and levels of cash plays much more the role of the buffer that hedge against the operational risk. Interesting observation is that general population of the wood processing firms has higher level of cash to total assets than small firms.

Table 2. Cash levels to total assets for wood processing small firms from Slovakia on the background of whole population of wood processing firms from Slovakia. Source: own study based on data from 363 wood processing manufacturing firms reported in Database Amadeus product of Bureau van Dijk, [date: 2015 SEP 10]

	2013	2012	2011	2010
SMALL (SK=190)	9,37	9,23	11,26	12,53
ALL (SK=363)	9,18	9,67	11,54	13,19

In case of Slovak firms, small wood processing firms have a little bit higher levels of cash to total assets than general population of such firms. That illustrates the same rule, that firms without full operating cycle face smaller level of operating cycle and cash levels plays smaller role in hedging against the risk. Small firms generally have

higher risk sensitivity that results from larger agency costs and asymmetry information imperfections, but that is much more revealed in case of the firms with full operating cycle that will be better illustrated in Fig. 3, Fig. 4 and Table 3 and Table 4.

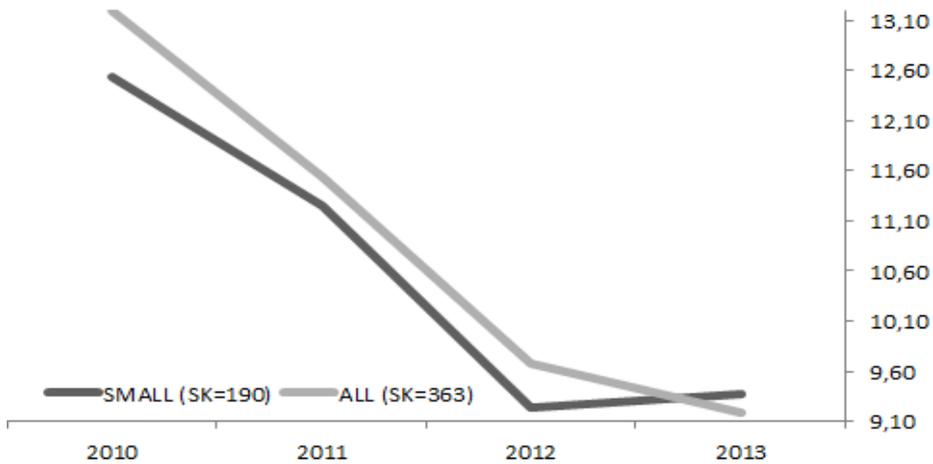


Fig. 2. Cash levels to total assets for wood processing small firms from Slovakia on the background of whole population of wood processing firms from Slovakia. Source: own study based on data from 363 Slovak wood processing manufacturing firms reported in Database Amadeus product of Bureau van Dijk, [date: 2015 SEP 10]

As previously mentioned, in firms with full operating cycle, we can observed inverted relationship between cash to assets levels for small firms and general population of full operating cycle firms. At Fig. 3 and in Table 3 small wood processing full operating cycle firms use significantly higher levels of cash to total assets than adequate whole population of full operating cycle firms.

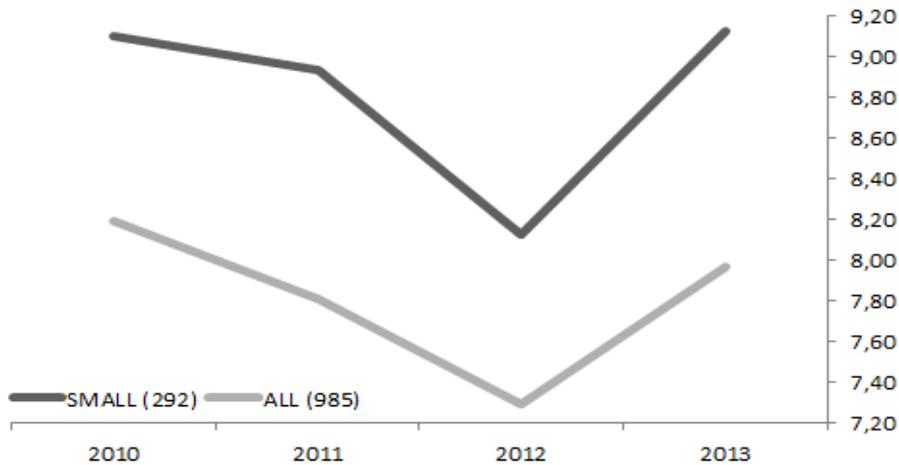


Fig. 3. Cash levels to total assets for wood processing full operating cycle small firms from Austria, Belarus, Czech Republic, Germany, Hungary, Lithuania, Poland, Slovakia, Ukraine on the background of whole population of full operating cycle wood processing firms from these countries. Source: own study based on data from 985 full operating wood processing manufacturing firms reported in Database Amadeus product of Bureau van Dijk, [date: 2015 SEP 10]

Table 3. Cash levels to total assets for full operating cycle wood processing small firms from Austria, Belarus, Czech Republic, Germany, Hungary, Lithuania, Poland, Slovakia, Ukraine on the background of whole population of full operating cycle wood processing firms from these countries. Source: own study based on data from 985 full operating cycle wood processing manufacturing firms reported in Database Amadeus product of Bureau van Dijk, [date: 2015 SEP 10]

	2013	2012	2011	2010
SMALL (292)	9,13	8,13	8,94	9,10
ALL (985)	7,97	7,29	7,81	8,20

Table 4. Cash levels to total assets for full operating cycle wood processing small firms from Slovakia on the background of whole population of full operating cycle wood processing firms from Slovakia. Source: own study based on data from 144 full operating cycle wood processing manufacturing firms reported in Database Amadeus product of Bureau van Dijk, [date: 2015 SEP 10]

	2013	2012	2011	2010
SMALL (SK=110)	10,82	8,66	10,29	10,59
ALL (SK=144)	9,27	7,62	9,22	9,88

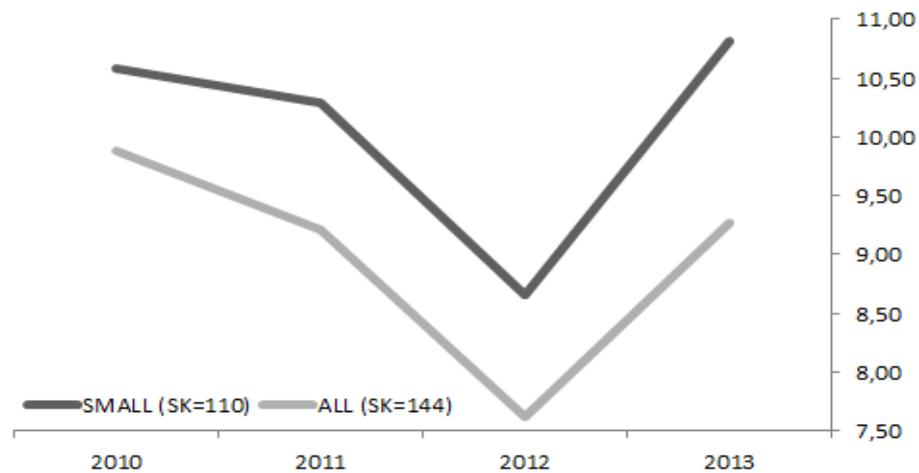


Fig. 4. Cash levels to total assets for wood processing full operating cycle small firms from Slovakia on the background of whole population of full operating cycle wood processing firms from Slovakia. Source: own study based on data from 144 Slovakian full operating wood processing manufacturing firms reported in Database Amadeus product of Bureau van Dijk, [date: 2015 SEP 10]

Presented at Fig. 3 and Fig. 4 cash to total assets levels, confirms our intuition about influence agency costs effect on risk sensitivity in small wood processing firms. Small firms with full operating cycle are much more risk sensitive than general population of such firms.

#### 4. Conclusions

Agency costs are source of higher risk. Higher risk sensitivity is typical for full operating cycle entities and small firms. In the paper was used case of wood processing firms to show the relationship of cash to total assets in firms with full operating cycle and without it, to present the relationship of cash to total assets in small firms and general population of the firms and to compare Slovak firms with firms from Slovak, Poland and surrounding countries. Empirical data illustrations confirm expectations of the model of influence agency costs on cash levels in firms.

## Acknowledgements

The presented work and results is part of monothematic cycle realized as part of grant titled: Cash management in small and medium enterprises that use full operating cycle. The work is supported by National Science Centre, and financed from the Polish budget resources in the years 2015-2018 as the research project DEC-2014/13/B/HS4/00192.

## References

- Ang, J., 1992. Small Business. On the Theory of Finance for Privately Held Firms, *Journal of Small Business Finance* 1(3), 185–203.
- Bartak, M., Gavurova, B., 2014. Economics and social aspects of long-term care in the context of the Czech Republic and the Slovak Republic EU membership. In: 12th International Scientific Conference, Economic Policy in the European Union Member Countries, Ostravice.
- Bem, A., Predkiewicz K., Predkiewicz P., Ucieklak-Jez, P., 2014b. Hospital's Size as the Determinant of Financial Liquidity. In: *European Financial Systems 2014*, Brno: Masaryk University, 41–48.
- Bem, A., Predkiewicz, K., Predkiewicz, P., Ucieklak-Jez, P., 2014a. Determinants of Hospital's Financial Liquidity. *Procedia Economics and Finance*, 12, 27-36.
- Bem, A., Predkiewicz, K., Predkiewicz, P., Ucieklak-Jez, P., 2014c. Health System's Financing Inequalities in Selected European Countries. In: *European Financial Systems 2014*, Brno: Masaryk University, 34-40.
- Gavurova, B., 2011. The Balanced Scorecard System in Enterprise Management. *Ekonomicky casopis*, 59, 2, 163-177.
- Gavurova, B., 2012. Source Identification of Potential Malfunction of Balanced Scorecard System and Its Influence on System Function. *E+M Ekonomie a Management*, 15, 3, 76-90.
- Gavurova, B., Hyranek, E., 2013. Determinants of Day Health Care Development in Slovakia. *Ekonomicky casopis*, 61, 2, 134-154.
- Gavurova, B., Soltes, M., Balloni, A., 2014. The Economic Importance of Using of ICT in the Health System. *Ekonomicky casopis*, 62, 1, 83-104.
- Kulhanek, L., Uherek, D., 2003. Globalization, financial system and equity market linkages in transition countries. *Ekonomika Istrazivanja*, 16, 2, 55-67.
- Luczka, T., 1997. Capital as a matter of financial management of small and medium-sized private enterprises, University of Technology, Poznan.
- Luczka, T., 2001. Foreign capital in small and medium enterprise. Selected aspects of the micro-and macroeconomic, WN PWN, Warsaw-Poznan.
- Michalski, G., 2009. Inventory management optimization as part of operational risk management. *Economic Computation and Economic Cybernetics Studies and Research*, 43, 4, 213-222.
- Michalski, G., 2012. Efficiency of accounts receivable management in Polish institutions. In: *European Financial Systems 2012*, Brno: Masaryk University, 148-153.
- Michalski, G., 2013. Financial consequences linked with investments in current assets: Polish firms case. In: *European Financial Systems 2013*, Brno: Masaryk University, 213-220.
- Michalski, G., 2014. Value maximizing corporate current assets and cash management in relation to risk sensitivity: Polish firms case. *Economic Computation and Economic Cybernetics Studies and Research*, 48, 1, 259-276.
- Michalski, G., 2015. Full operating cycle influence on food and beverages processing firms characteristics. *Agricultural Economics - Zemedelska Ekonomika*, 61.
- Mura, L., Buleca, J., Hajduova, Z., Andrejkovic, M., 2015. Quantitative financial analysis of small and medium food enterprises in a developing country, *Transformations in Business and Economics*, 14, 1, 212-224.
- Qineti, A., Matejkova, E., Pietrikova, M., Serences, R., Toth, M., Dvorak, M., 2011. Looking for the evidence of socio-economic convergence within the European Union. *Agricultural Economics-Zemedelska Ekonomika*, 57, 384-393.
- Raisova, M., Buleca, J., Michalski, G., 2014. Food processing firms inventory levels in hard times. 2004-2012 Slovak, Czech and Polish enterprises case. *Procedia Economics and Finance*, 12, 557-564.
- Soltes, M., 2010. Relationship of speed certificates and inverse vertical ratio call back spread option strategy. *E+M Ekonomie a Management*, 13, 2, 119-124.
- Soltes, V., Gavurova, B., 2013. Application of the cross impact matrix method in problematic phases of the Balanced Scorecard system in private and public sector. *Journal of Applied Economic Sciences*, 8, 1, 99-119.
- Soltes, V., Gavurova, B., 2014. The Functionality Comparison of the Health Care Systems by the Analytical Hierarchy Process Method. *E+M Ekonomie a Management*, 17, 3, 100-118.
- Soltes, V., Rusnakova, M., 2013. Hedging against a price drop using the inverse vertical ratio put spread strategy formed by barrier options. *Inzinerine Ekonomika-Engineering Economics*, 24, 1, 18-27.
- Svidronova, M., 2013. Sustainability Strategy of Non-Government Organisations in Slovakia, *E+M Ekonomie a Management*, 16, 3, 85-100.
- Uzik, M., Soltes, V., 2009. The Effect of Rating Changes on the Value of a Company Listed in the Capital Market, *E+M Ekonomie a Management*, 12, 1, 49-58.
- Vacekova, G., Svidronova, M., 2014. Benefits and risks of self-financing of NGOs - empirical evidence from the Czech republic, Slovakia and Austria. *E+M Ekonomie a Management*, 17, 2, 120-130.
- Welsh, J., White, J., 1981. A Small Business Is Not a Little Big Business, *Harvard Business Review* July-August, 18-33.