Investment Risk in Time of the Global Financial Crisis – Empirical Study of Silesian Companies[1]

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Abstract

The global financial crisis has a power to change companies' business environment and thus may influence their investment decisions. The study aims at presenting the results of researches examining whether companies operating in Silesian Region, Poland, are exposed to a greater investment risk due to the reduction or fluctuations of investment expenditures. A sample of Silesian companies was asked about their opinion whether the course of company's past or planned investment activity is connected with the global financial crisis. It was found that in the majority of companies there is an increase or stability of past or planned investment expenditures. However, most of the companies with decreasing or fluctuating investments blames the global financial crisis for such a situation.

Key words

solvency risk, silesian companies, crisis

JEL Classification: G01, G31

1. Introduction

Investment decisions of a company, together with its financing decisions, constitute the main field of interest of the corporate financial management (Baker and Powell 2005, p. 7; Bender and Ward 2009, p. 5). The character of investment and financing decisions is different; however these decisions are bound together, as the possibility to acquire the desired sources of funds determines the potential to undertake the investment projects. On the other hand, the rate of return generated on the investment projects determines the access to corporate capital, at present and in the future, both from the external or internal sources of funds.

Investment decisions involve allocation of corporate funds, both these obtained from the investors and these generated internally in a form of retained profit. The initial cash outlay made by the company should generate in return future cash inflows or reduce further cash outlays (Lumby and Jones 2011, p. 33). The main objective of investment decisions is to develop the company and reinforce its competitive advantage. By this, a company has a chance to increase its value and create shareholders' wealth. To achieve this goal, investment decisions should follow the investment principle stating that the company should invest in

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assets that generate rate of return higher than the minimal required rate of return called hurdle rate. Otherwise, the effectiveness of investment decisions will be negative. Investment decisions of poor quality may be disastrous for a company as their may even lead to its bankruptcy (Emery, Finnerty and Stowe 2004, p. 3; Baker and Powell 2005, p. 5-6; Harris, Emmanuel and Komakech 2009, p. 1-2). As strategic implications of investment decisions are crucial, major investment projects need to be evaluated with sophisticated valuation procedures (see more in: Megginson, Smart 2006, p.332-356; Ehrhardt and Brigham 2011, p. 379-405; Hillier, Grinblatt and Titman 2012, p. 310-337).

Companies may undertake different types of investment projects concerning all types of assets (Emery, Finnerty and Stowe 2004, p.168-173; Shapiro and Balbirer 2000, p. 244-245; Pike and Neale 2003, p. 167). However, the investments in real assets are predominant. Investments in tangible assets are often connected with research and development expenditures. Rarely business entities (non-financial companies) are involved in investment projects based on financial instruments.

Undoubtedly, the global financial crisis had an impact on companies' investment decisions. The crisis caused serious turbulences due to the rapid changes in companies' business environment. The investment activity of a company is determined by many factors, both external and internal ones. Company's development strategy is one of the most important. Competitor's strategy, technological change and fiscal incentives are also crucial. The company's decision to invest is also influenced by the fluctuations on the financial markets resulting in higher hurdle rate and limited access to the sources of funds. Greater uncertainty and higher investment risk caused by the recession in the economy may result in surrender or postponement of investment projects which decreases company's ability to develop. Different factors influencing corporate investment decisions are discussed among others in: (Schaller 1993, Hubbard, Kashyap and Whited 1995; Lamont 1997; Hubbard 1998; Copper and Ejarque 2003; Gildchrist and Sim 2005, Alemida and Campello 2007).

Under the threat of bankruptcy, the rejection or postponement of investment projects is understandable. In such a situation companies should focus on surviving. On the other hand, surrender or postponement of investments influences the prospects of company's growth. As a consequence, a company limits the chances to overcome obstacles caused by the crisis. It is also worth noticing that in the changing business environment, the investment activity may be the only solution to survive. Facing the fall of demand and thus sales revenues, only an innovative company has chances to be competitive.

The problems of corporate investments in times of financial crisis has being undertaken in recent studies (e.g. Campello, Giambona, Graham and Harvey 2010; Duchin, Ozbas and Sensoy 2010; Campello, Giambona, Graham and Harvey 2011). These studies focus on the interactions between the accessibility of funds and capital investments in companies. In this study, however, we examine whether the changes of real investments in companies are under the general impact of the consequences of the crisis. Our findings are based on the results of the questionnaire on companies operating in Silesian Region in Poland. Silesian Region is here associated with Silesian Voivodship, which with 4,6 million of citizens and 13% contribution to GDP represents the second biggest Voivodship of Poland[4]. In particular, we discuss the results in the context of investment risk which we associate with fluctuations or decrease of the level of investment expenditures.

The paper is structured as follows. Section two explains the methodology of the research. In section three the results are discussed and section four briefly concludes the paper.

┐ Silesian Region is also commonly associated with Lower Silesian (Dolnośląskie) Voivodship. However, this study addresses only companies operating in Silesian Voivodship. .

2. Methodology

The research methodology is based on authors' questionnaire which was conducted in June/July of 2011 on a sample of companies operating in Silesian Region. The questionnaire included in total 53 questions regarding different aspects of companies' financial performance. These questions addressed core financial categories and the companies were asked about their opinions how these categories changed in 2008-2010 and how they may change in the prospect 24 months. Additionally, companies were asked whether the observed or expected changes are caused by the crisis or not. Among the aspects of financial performance there were questions concerning companies' investment activity regarding the investment expenditures. Only these answers are subject of deeper analysis in the remainder of the paper.

The research sample included randomly selected 350 companies operating in Silesian Region. These companies were of different branch belonging, ownership structure and size with regard to the number of employees, the volume of sales revenues and the volume of assets. The structure of examined companies with regard to their size is presented in table 1.

Table 1: Structure of the examined sample of the Silesian companies

Specification	Number of examined companies	The percentage of the examined population
Employment:		
- to 9 persons	265	75,71%
- more than 9 persons	85	24,29%
Volume of assets:		
- to 1 mln of PLN	283	80,86%
- more than 1 mln of PLN	67	19,14%
Volume of sales revenues in 2010:		
- to 1 mln of PLN	275	78,57%
- more than 1 mln of PLN	75	21,43%

Source: Own study based on the results of the questionnaire.

It should be noticed that the sample of examined companies, with regard to various criteria of size, included between 75% to 80% of small companies and c.a. 20% of the larger ones. The majority of small companies in the sample is explainable as c.a. 98% of companies operating in Silesian Voivodship are classified as small enterprises, and only 2% - as large companies (compare: *Działalność przedsiębiorstw niefinansowych w 2009 roku*, 2011, p. 67).

The questionnaire was conducted with the application of the PAPI (paper and pencil interview) method. With regard to the approach to real investments the respondents were asked about their opinions on:

- the changes of investment activities in the years 2008-2010 – whether investment expenditures increased, decreased, remained stable or fluctuated significantly,
- the connection between the observed changes of investment activity and the impact of the global financial crisis,
- the changes of investment activities in the prospect 24 months – whether investment expenditures will increase, decrease, remain stable or will fluctuate significantly,
- the connection between the expected changes of investment activity and the impact of the global financial crisis.

Additionally, the respondents were asked whether in their subjective opinions the general impact of the global financial crisis on a company is perceptible.

The analysis of the questionnaire results within the problem of investments was directed to support the following plausible hypotheses:

- H1: in time of the global financial crisis (2008-2010) most of the Silesian companies reduced their investment activity or observed its high fluctuations, which may indicate the perception of higher investment risk,
- H2: most of the Silesian companies in the following 24 months of their performance expect further reduction or significant fluctuation of their investment activities, which may indicate the perception of higher investment risk,
- H3: the Silesian companies perceiving (ex-post and ex-ante) relatively higher level of investment risk, blame the global financial crisis for such situation.

3. Findings and discussion

The data provided in table 2 indicate that most of the questioned companies did not change their real investment expenditures in 2008-2010 (154 out of 350 companies, which gives 44% of respondents). Additionally, 102 companies (29% of respondents) declared, that the investment expenditures had a tendency to grow. The majority of the respondents who declared stability or growth of investment expenditures was of the opinion that the global financial crisis had not influence their investment activity (in total 189 companies out of 256, which gives c.a. 74%).

Table 2: The connection between the observed changes of real investment expenditures in 2008-2010 and the global financial crisis in the questioned companies

Specification		The observed tendency of changes of real investment expenditures was connected with the global financial crisis?		In total
		YES	NO	
The real investment expenditures in 2008-2010	had a tendency to fall	**53** 88,3% *38,7%*	**7** 11,7% *3,3%*	**60** 100,0% *17,1%*
	had a tendency to grow	**14** 13,7% *10,2%*	**88** 86,3% *41,3%*	**102** 100,0% *29,1%*
	remained relatively stable	**53** 34,4% *38,7%*	**101** 65,6% *47,4%*	**154** 100,0% *44,0%*
	fluctuated significantly	**17** 50,0% *12,4%*	**17** 50,0% *8,0%*	**34** 100,0% *9,7%*
In total		**137** 39,1% *100,0%*	**213** 60,9% *100,0%*	**350** 100,0% *100,0%*

Source: Own study based on the results of the questionnaire.

The investment expenditures fluctuated significantly in 34 companies (9,7% of respondents) and had a tendency to fall in 60 companies (17,1% of respondents). It should be noticed that among these 94 companies, the majority (70 companies, which gives c.a.74%) blames the global financial crisis for such a situation.

With regard to the expected changes of investment expenditures in the coming 24 months the results are quite similar (compare table 3). 273 out of 350 questioned companies (78%) declared that they were expecting a growth or relative stability of investment expenditures. Among these 273 companies, 186 were of the opinion that their planned investment activity was not connected with the global financial crisis. Among 77 companies that expected a fall or fluctuation of investment expenditures, most (71%) were of the opinion that it was under the influence of the global financial crisis.

Table 3: The connection between the expected changes of real investment expenditures in following 24 months and the global financial crisis in the questioned companies

Specification		The expected tendency of changes of real investment expenditures is connected with the global financial crisis? YES	NO	In total
The real investment expenditures in the following 24 months are expected to:	fall	**38** 80,9% *26,8%*	**9** 19,1% *4,3%*	**47** 100,0% *13,4%*
	increase	**51** 38,3% *35,9%*	**82** 61,7% *39,4%*	**133** 100,0% *38,0%*
	remain relatively stable	**36** 25,7% *25,4%*	**104** 74,3% *50,0%*	**140** 100,0% *40,0%*
	fluctuate significantly	**17** 56,7% *12,0%*	**13** 43,3% *6,2%*	**30** 100,0% *8,6%*
In total		**142** 40,6% *100,0%*	**208** 59,4% *100,0%*	**350** 100,0% *100,0%*

Source: Own study based on the results of the questionnaire.

According to the data presented in table 4, among 102 companies which declared that their investment expenditures grew in 2008-2010, c.a. 59% expected the further growth, 28% stability and only c.a. 14% the fall or fluctuations of these expenditures. Among 154 companies which declared stability of investment expenditures, 63% expected that the situation remain stable, whereas 26% expected the improvement (the growth) of investments. 24 out of 60 (40%) companies in which investment expenditures had a tendency to fall, expected that the situation would not change in the future. Only 28% of these expected the increase of investments in the coming 24 months. In 34 companies where investment expenditures in 2008-2010 were fluctuating, 16 (which gives 47%) expected the increase, 10 (29%) the further fluctuations, 4 the fall and 4 stability of investment expenditures in the following 24 months.

Table 4: The connection between the observed and the expected changes of real investment in the questioned companies

Specification		The real investment expenditures in the following 24 months are expected to: fall	increase	remain relatively stable	fluctuate significantly	In total
The real investment expenditures in 2008-2010	had a tendency to fall	**24** 40,0% *51,1%*	**17** 28,3% *12,8%*	**11** 18,3% *7,9%*	**8** 13,3% *26,7%*	**60** 100,0% *17,1%*
	had a tendency to grow	**8** 7,8% *17,0%*	**60** 58,8% *45,1%*	**28** 27,5% *20,0%*	**6** 5,9% *20,0%*	**102** 100,0% *29,1%*
	remained relatively stable	**11** 7,1% *23,4%*	**40** 26,0% *30,1%*	**97** 63,0% *69,3%*	**6** 3,9% *20,0%*	**154** 100,0% *44,0%*
	fluctuated significantly	**4** 11,8% *8,5%*	**16** 47,1% *12,0%*	**4** 11,8% *2,9%*	**10** 29,4% *33,3%*	**34** 100,0% *9,7%*
In total		**47** 13,4% *100,0%*	**133** 38,0% *100,0%*	**140** 40,0% *100,0%*	**30** 8,6% *100,0%*	**350** 100,0% *100,0%*

Source: Own study based on the results of the questionnaire.

In order to support the analysis of the results of the above data, companies were asked about their general perception of the impact of crisis on their company. These results were confronted with both the number of companies which indicated whether the observed or expected changes of investment expenditures were connected with the global financial crisis (compare table 5 and 6). Thus, it can be analysed whether the changes of investment activity connected with crisis are caused by internal or rather external factors. In particular, the companies, which declared that the consequences of the global financial crisis were still perceptible (and strengthen or weaken), are considered as these in which the changes of investments are caused predominantly by internal factors.

Table 5: The perception of the consequences of the global financial crisis and the connection of observed changes in investments with the crisis

Specification		The observed tendency of changes of real investment expenditures was connected with the global financial crisis?		In total
		YES	NO	
The consequences of the global financial crisis in a company	are still perceptible, but weaken	**77** 49,4% *56,2%*	**79** 50,6% *37,1%*	**156** 100,0% *44,6%*
	are still perceptible and grow on intensity	**47** 65,3% *34,3%*	**25** 34,7% *11,7%*	**72** 100,0% *20,6%*
	are currently not perceptible	**5** 12,5% *3,6%*	**35** 87,5% *16,4%*	**40** 100,0% *11,4%*
	were not perceptible at all	**8** 9,8% *5,8%*	**74** 90,2% *34,7%*	**82** 100,0% *23,4%*
In total		**137** 39,1% *100,0%*	**213** 60,9% *100,0%*	**350** 100,0% *100,0%*

Source: Own study based on the results of the questionnaire.

Table 6: The perception of the consequences of the global financial crisis and the connection of the expected changes in investments with the crisis

Specification		The expected tendency of changes of real investment expenditures is connected with the global financial crisis?		In total
		YES	NO	
The consequences of the global financial crisis in a company	are still perceptible, but weaken	**76** 48,7% *53,5%*	**80** 51,3% *38,5%*	**156** 100,0% *44,6%*
	are still perceptible and grow on intensity	**47** 65,3% *33,1%*	**25** 34,7% *12,0%*	**72** 100,0% *20,6%*
	are currently not perceptible	**6** 15,0% *4,2%*	**34** 85,0% *16,3%*	**40** 100,0% *11,4%*
	were not perceptible at all	**13** 15,9% *9,2%*	**69** 84,1% *33,2%*	**82** 100,0% *23,4%*
In total		**142** 40,6% *100,0%*	**208** 59,4% *100,0%*	**350** 100,0% *100,0%*

Source: Own study based on the results of the questionnaire.

The data provided in table 5 indicate that 137 out of 350 companies (39,1%) declared that the change of their investment expenditures was connected with the global financial crisis. Out of these 137 companies, the 13 (9,4%) declared that the consequences of the global financial crisis were not perceptible in their company (currently or at all). Further, the 56,2% of these 137 companies declared that the consequences of crisis were still perceptible but weaken, whereas 34,3% - that consequences were perceptible and grow on intensity. It means that in c.a. 90% of companies the changes of investment expenditures were caused by internal consequences of the crisis.

The data provided in table 6 indicate that 142 out of 350 companies (40,6%) declared that the expected changes of their investment expenditures are connected with the impact of the global financial crisis. Out of these 142 companies about 13,4% (19 companies) declared that the consequences of the global financial crisis were not perceptible in their company. In 76 companies (c.a. 53%) the consequences of crisis were perceptible and weaken, whereas in 47 companies (c.a. 33%) the consequences of crisis were perceptible and grow on intensity. It means that in about 87% of questioned companies the expected changes of investment expenditures were connected with internal factors.

4. Conclusions

The data presented in the study were applied to support three plausible hypotheses about the changes of investment activity of Silesian companies. There is no convincing support to the first and second hypothesis, but some evidence was found to support the third one.

With regard to the first hypothesis, stating that in time of the global financial crisis (2008-2010) most of the Silesian companies reduced their investment activity or observed its high fluctuations, the data indicate quite contrary conclusions. The majority of the questioned companies (73%) declared that their investment expenditures increased or remained stable. Similar conclusions are drawn from the analysis of answers regarding the question about the expected investments. Thus, the second hypothesis stating that most of the Silesian companies in the following 24 months of their performance expect further reduction or significant fluctuation of their investment activities, found no support as well. There again, the majority of the questioned companies (78%) declared that they were expecting grow or stabilisation of investment expenditures. In addition, out of 154 companies in which the investment expenditures in 2008-2010 remained stable, 63% expects the further stabilisation and 26% the increase.

With regard to the third hypothesis stating that the Silesian companies perceiving (ex-post and ex-ante) relatively higher level of investment risk, blame the global financial crisis for such situation, some support was found. Among the companies which declared that the investment expenditures in 2008-2010 were reduced or fluctuated, 74% said that it was connected with the global financial crisis. In addition, in most of the companies which declared that the changes of their investment expenditures were connected with crisis, the consequences of crisis were still perceptible. Among the companies which declared that investment expenditures expected in 24 months would be reduced or would fluctuate, c.a. 71% blamed the global financial crisis for such a situation. There again, among the companies which indicated that the expected changes of investment expenditures were connected with the crisis, most declared that the general consequences of crisis were still perceptible.

The results of a questionnaire presented in this study indicated that the questioned companies declared the increase or stability of investment expenditures both in ex-post and ex-ante perspective. The obtained results are quite surprising regarding the mechanism of the influence of financial crisis on companies' investment decisions. However, according to the recent macroeconomic data, the consequences of the global financial crisis together with the economic slowdown will hit Poland in the end of 2012. Thus, it is possible that in the period of the questionnaire companies were still very optimistic about their future. Therefore, it would be advisable to repeat the research in future to compare the answers of respondents and analyse the differences.

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