

Investment Activities of Businesses and the Use of European Financial Support in the Czech Republic at the Time of Crisis

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Abstract. *This article is focused on investment activity during crisis period. It is obvious that investment decreased in time of depression because businesses postponed or reduced their investment. Business units looked for steps which they should have implemented. The most common step was reducing investment. On the other hand they mobilized their internal sources which could be supported by additional money sources such as financial support programmes because crisis period is characteristic of low availability of sources such as bank loans etc. The fifth enlargement of the European Union brought need of new Cohesion Policy which was implemented in the Czech Republic into operational programs which are introduced. The Operational Program Enterprise and Innovation is used for testing a hypothesis if we can trace the impact on applications of financial support according to external change of economic conditions.*

Keywords: investment activity; recession period; cohesion policy; operational programs; Czech Republic.

JEL Codes: E200, G010, M200.

REL Codes: 11D, 14A.

1. Introduction

This paper describes situation of Czech Operational Programs which are part of Cohesion Policy of the European Union. It combines Cohesion Policy with investment activity during economic crisis of recent years. This article confirmed that financial support programmes could be an additional source of money for financing investment during crisis period. First chapter is introduction followed by the chapter two which describes investment and current situation of investment activity. Second chapter uses macroeconomic data as well as survey of Czech Chamber of Commerce which shows corporate opinions on current situation and outlooks. Third chapter is dedicated to Cohesion Policy of the European Union and Czech financial support programmes which are called Operational Programs. Last main chapter is the chapter four which discuss our research question. We are testing hypothesis if we can trace the impact on applications of financial support according to external change of economic conditions. Results of our hypothesis are discussed and supplemented by possibilities of future research in conclusion.

2. Investment

Investment activity can be discussed on the macroeconomic as well as on the microeconomic level and it is very important topic on both levels. Regular investment in company development or at least in recovery of assets and technologies is the only possibility how to ensure a sustainable company growth. It is same with the whole national economy.

In macroeconomic theory investment is the amount of assets which are not consumed but are to be used for future production of consumer goods or other capital goods (Synek, 2011). How the investment activity is of great importance we can show by classical production function which is illustrated on Figure 1. Classical production function describes dependency between production quantity and the amount of capital. The amount of capital is independent variable in this case and we can increase the amount by investment process. The dependent variable production quantity is on the axis y and the more capital the greater production quantity. Classical production function opens a question how it has been with product supported by investment for several recent years.

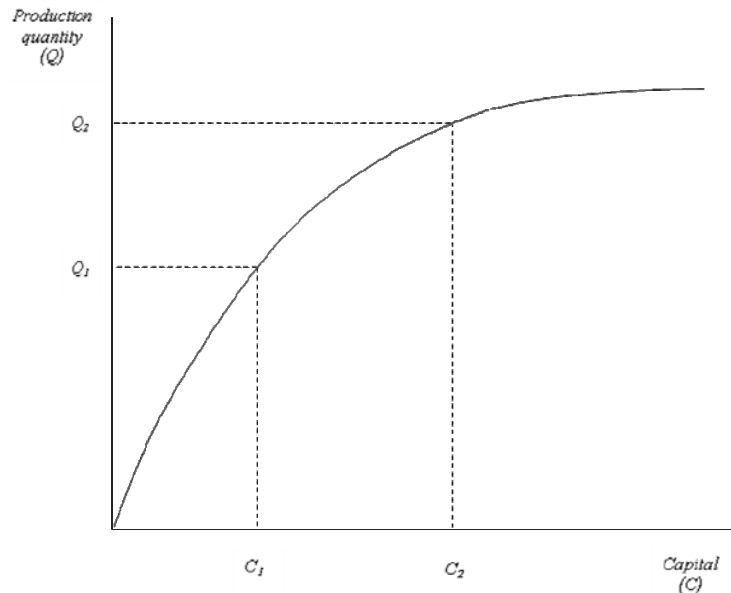


Figure 1. *Classical production function*

2.1. Macroeconomic data

The component of investment is very sensitive part of gross domestic or national product. Many papers were devoted to economic crisis recent months. If we look at Czech macroeconomic data it is obvious that decrease in gross domestic product we can observe in 2009 although the end of the year 2008 is connected with decrease in the production of machinery and connected industry branches. Investment in response to the economic cycle fell dramatically down in 2009. The recovery came in 2010 but the amount of gross investment did not change significantly. Gross domestic product in 2010 is still lower than in 2008 but if we compare that with value of gross investment we see that the situation is same. Gross investment is lower but the difference is even higher for gross investment. That has to mean that other components of GDP such as consumption, government expenditures or net export cover dramatic decrease in investment activities. Czech commented macroeconomic data is displayed in Table 1. All data except inflation is counted in millions of CZK in current prices.

Table 1

Selected Czech macroeconomic data				
	2007	2008	2009	2010
GDP (mil. CZK)	3,662,573	3,848,411	3,739,225	3,775,237
Gross investment (mil. CZK)	1,091,542	1,113,805	898,373	947,100
Gross fixed investment (mil. CZK)	989,608	1,031,182	927,465	922,952
Inventories (mil. CZK)	98,487	79,050	-32,957	20,110
Inflation (%)	2.8	6.3	1.0	1.5

Source: Makroekonomická predikce, 2011a and Makroekonomická predikce, 2011b.

We have shown development of Czech investment but international comparison is needed. Table 2 contains information about gross domestic product and gross fixed investment in EU 27 and three selected countries. Hungary, Poland and Slovakia have been selected as countries which have comparable economic conditions and same history as transition economies in the region of Central Europe. Table 2 illustrates that gross domestic product in 2010 increased in comparison with the year 2009. Only Slovakia reached higher GDP 2010 than GDP 2008. Deeper analysis of gross fixed investment shows us that conclusions valid for the Czech Republic are valid for our whole sample except Hungary. Hungarian situation is even worse because since 2008 investment has decrease every year.

Table 2

Selected European macroeconomic data				
	2007	2008	2009	2010
GDP (mil. EUR)	12,400,902.0	12,484,420.7	11,761,587.4	12,257,461.4
Czech Republic	131,908.6	154,269.7	14,449.8	149,313.3
Hungary	99,430.5	105,545.1	91,402.5	97,094.8
Poland	311,001.7	363,153.7	310,418.2	354,310.0
Slovakia	54,810.8	64,500.1	62,895.5	65,887.4
Gross investment (mil. EUR)	2,625,795.7	2,617,075.1	2,226,002.2	2,260,957.2
Czech Republic	35,641.0	41,336.6	35,084.7	36,503.4
Hungary	21,659.8	22,901.6	18,889.2	17,447.1
Poland	67,058.4	80,836.5	65,775.3	70,401.5
Slovakia	14,357.4	15,973.6	13,024.8	14,615.5

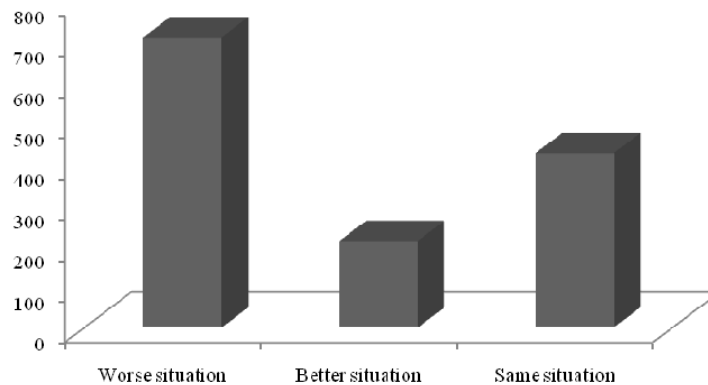
Source: Eurostat a and Eurostat b.

2.2. Future development

Until now we have commented past development but we should also put emphasis on future trends. It seems that the future will not be bright. It is hard to say that we live in post-crisis period because the second wave of crisis is probably coming. It could be demonstrated by macroeconomic data or

investment mood across businesses. Conclusion of Dubská (2011) is that the risk of further economic slowdown has intensified. She uses all available macroeconomic data for first two quarters of 2011 in the Czech Republic. Consumption is still low because households save. Ratio of sales growth is insufficient. On the other hand gross fixed investment has recovered. The end of the year 2010 was connected with last investments in renewable energy sources thanks to legislation. But the growth has stayed also in 2011 when the most important activity is investing in machinery. In numbers it means that growth of Czech gross capital investment was 3.6% in second quarter 2011 although growth of European gross capital investment was only 1.9% in same quarter.

Czech Chamber of Commerce realized its survey in October 2011. The sample consisted of 1,350 Czech businesses. The conclusions are not optimistic. Almost one half of businesses emphasizes fewer orders and one fifth has difficulties with poor solvency of customers. Business units answered also the questions about their expectations of the year 2012. Figure 2 shows results. Over 700 companies expect worse situation next year comparing with actual year. It is not positive because they are preparing plans which include on the first place reducing of investment (48.2%), followed by lower increase in wages (31.4%)



Source: Survey Czech Chamber of Commerce, October 2011.

Figure 2. Corporate expectations of the year 2012

3. Structural or cohesion policy of the European Union

The fifth enlargement of the European Union followed by the accession of Bulgaria and Rumania means that regional disparities are greater than even before. Disparities lead to social and political problems. There could be

detected economic, moral and political reasons why we try to solve disparities and practice cohesion policy which has its critiques as well as supporters. Molle (2007) writes that admirers say European cohesion is the cement that holds the construction of the EU together.

Cohesion policy has economic and social impacts. Traditional targets were economic stability, reducing unemployment, economic development of regions which have specific geographic location or use their potential insufficiently. It should decrease differences in economic and social level of regions in the European Union. It means concrete that this policy should correct inadequate structures of industry, agriculture and services. Cohesion policy is common for the whole European Union. It is based on unified principles and uses common sources.

Cohesion policy has been dramatically reformed for the period 2007-2013 because of enlargement in 2004 which caused greater disparities than even before. Orientation of policy was changed. Traditional topics as regional development and employment stayed but policy started emphasize also competitiveness and development of rural areas. General principles named by Boháčková and Hrabánková (2009) are following:

- more attractive Europe and its regions for investors and employees;
- knowledge improvement and innovations for growth;
- creating more and better job opportunities.

According to Lisbon strategy and conclusions of Summit in Goteborg priorities were changed. We can detect three objectives or pillars of cohesion policy for the period of 2007-2013. The first objective is Convergence Objective which should accelerate convergence of less developed member countries and regions. Steps should include investment in tangible assets and human capital, innovations, development of knowledge society, improving the ability of adaptation to economic and social changes, growth of environmental quality etc. This support is temporary and will be finished in 2013. Objective Regional Competitiveness and Employment completes Convergence Objective. It is for regions which cannot apply for money from sources which are used for Convergence Objective because these regions are too rich for convergence criteria. The last objective is European Territorial Cooperation. All regions near borders are included.

3.1. Czech financial support programmes

Most of financial support programmes in the Czech Republic used European Union funds and therefore we will pay attention to them and the second incentive is off course discussing structural policy. The European funds

general consist of Structural Funds and Cohesion Fund from which € 26.69 billion should come to the Czech Republic for the running program period of 2007-2013 (source: Information about EU Funds). Another possibility could be European Agriculture Fund for Rural Development which is not part of Structural Funds or Cohesion Fund and its targets are the competitiveness of agriculture, food producing, forestry or development of rural areas.

There are four major groups of programmes for the period of 2007-2013 which are financed thanks to Structural Funds or Cohesion Fund:

- Thematic Operational Programs;
- Regional Operational Programs;
- Operational Programs Prague;
- European Territorial Cooperation.

These groups contain together 26 different programmes. Support programmes are based on Objective 1, 2 and 3. Data set with which we work contain only programs fulfilling Objective 1 and 2 and represents 19 different programs. Some of programs which fulfil Convergence Objective are focused on regions, other on concrete themes. Regional operational programs are designed for the cohesion regions on the level NUTS II. Under specific themes you can imagine transport, environment, enterprise and innovation, human capital and employment etc. Objective 2 covers the Capital City of Prague with two operational programs which cannot apply for money of Cohesion sources. Objective 3 is European Territorial Cooperation and these programs are excluded. It is necessary to emphasize that this error is negligible because the amount of EUR € 0.39 billion is assigned to the European Territorial Cooperation objective in the Czech Republic. This amount represents 1.5% of whole budget for running period across all programs.

The amount of money which can be used by operational programs looks huge but it does not have to mean that there are many potential beneficiaries. Operational programs are a big giant to raise funds. By 7th September 2011 70,620 applications have been submitted in the amount of 1,115.8 billion CZK (source: Monthly Monitoring Report). Less than half of projects have been accepted. It is time to answer a question how many projects have been exactly supported. Supported projects are distinguished into three groups – cancelled projects during their implementation, already finished projects and ongoing group. Table 3 shows how the projects are divided into specific groups according to different operational programmes. It is necessary to say that numbers are current because the latest update came from 8th September 2011.

Table 3

Current number of beneficiaries of Operational Programs

Operational programmes	Number of projects			
	All	Cancelled	Finalized	Ongoing
Integrated Operational Program	6,942	81	5,349	1,512
OP Czech Republic-Poland	1,638	25	699	914
OP Transport	130	---	63	67
OP Human Resources and Employment	3,120	20	7	3,093
OP Enterprise and Innovation	6,586	528	2,162	3,896
OP Prague Adaptability	486	6	66	414
OP Prague Competitiveness	209	11	105	93
OP Fishing	630	26	17	587
OP Technical Assistance	105	4	43	58
OP Research and Development for Innovations	73	---	---	73
OP Education for Competitiveness	5,733	2	7	5,724
OP Environment	3,578	2	1,733	1,843
ROP NUTS II South-East	543	7	385	151
ROP NUTS II South-West	552	7	308	237
ROP NUTS II Moravia-Silesia	489	4	273	212
ROP NUTS II North-East	537	5	271	261
ROP NUTS II North-West	291	10	131	150
ROP NUTS II Central Bohemia	490	7	253	230
ROP NUTS II Central Moravia	538	4	419	115
All programmes	32,670	749	12,291	19,630

Source: own elaboration based on data: List of beneficiaries.

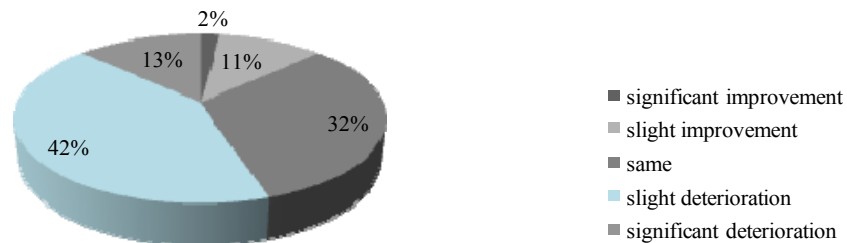
4. Research question

This chapter will represent research question which is set up as hypothesis. We will look for available data which helps us prove hypothesis. Research question has arisen thank to change of economic conditions.

4.1. Situation

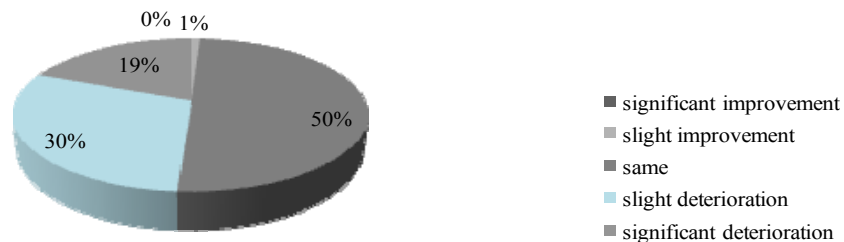
Cohesion policy and as well as Czech Operational Programs were prepared for the period of 2007-2013 when time of economic growth was forecasted. The authors Boháčková and Hrabánková (2009) also see that European funds started relatively successful economic growth and connected positive structure of gross domestic product which is an important indicator of the success of socio-economic changes. Since the end of the year 2008 in Europe we cannot speak anymore about bright economic situation because global crisis came to Europe. Macroeconomic indicators have already been discussed in the chapter 2.

Economic situation was completely different. Business units faced a lack of sales, insolvency of customers, low availability of additional financial sources or exchange rate risk. Results of survey of the Faculty of Business Administration, University of Economics, Prague proved all these troubles. The Faculty of Business Administration did two phases of a survey – one in March 2009 and the second in June 2009. In the first phase of survey 80 Czech companies were included and in the second phase 200 business units. For this article we are interested in the question “Possibility of obtaining funds for investment”. Business units had five possibilities for choosing – significant improvement, slight improvement, same, slight deterioration and significant deterioration. Companies were asked in March 2009 and June 2009. Results are shown in Figure 3 and Figure 4. It is obvious that conditions for obtaining funds for investment deteriorated. On business level the answer could be unconventional sources – internal sources such as human capital or external sources such as financial support programmes.



Source: Kislingerová, 2009a.

Figure 3. Possibility of obtaining funds for investment in March 2009



Source: Kislingerová, 2009b.

Figure 4. Possibility of obtaining funds for investment in June 2009

4.2. Hypothesis

We have seen that market conditions dramatically changed since 2008. It came to our mind a question if we can trace the impact on applications of financial support according to external change of economic conditions. The hypothesis could be written as “due to economic conditions the impact on applications is detected”. It is necessary to specify the impact. We do not reflect possible changes of application forms or other institutional changes. We take into account only decrease or increase of applications and accepted projects.

4.3. Data set

If we want to take into account increase or decrease of applications or accepted projects we definitely need data set. Unfortunately everything what we would like to analyse is not available. For free we can get only data set which consists of all projects which have been accepted. It means that we cannot analyse number of applications. Our data set which is available includes over 30,000 items (concrete, 32,670). Under each item we can imagine one unique project which is characterised by its name, applier and its identification number, amount of money, name of operational program and status of project (finalized, cancelled or ongoing).

We have not solved who appliers or beneficiaries of support could be. The sample of beneficiaries is very heterogeneous because projects can be presented by municipalities, regions, ministries, entrepreneurs, owners of transport infrastructure, non-profit organizations, schools, research centres and others. We would like to see the impact of economic conditions and therefore it is the best to choose a group of appliers which is directly exposed to market conditions. In our case the group which is directly exposed are entrepreneurs – classical profitable business units. We do not have the possibility to sort our data because data set does not include any characteristic which would help us. Identification number itself is only identifier which does not distinguish economic subjects.

It seems that we are still at the beginning of our work and we cannot go further. Only possible solution would be sort out our items one after another. It would take ages because there are over 30,000 items and for each we would have to find legal form. We have turned our attention to actual operational programs. We have to choose a program which is big enough and majority of its beneficiaries are profit businesses.

4.3.1. Chosen program

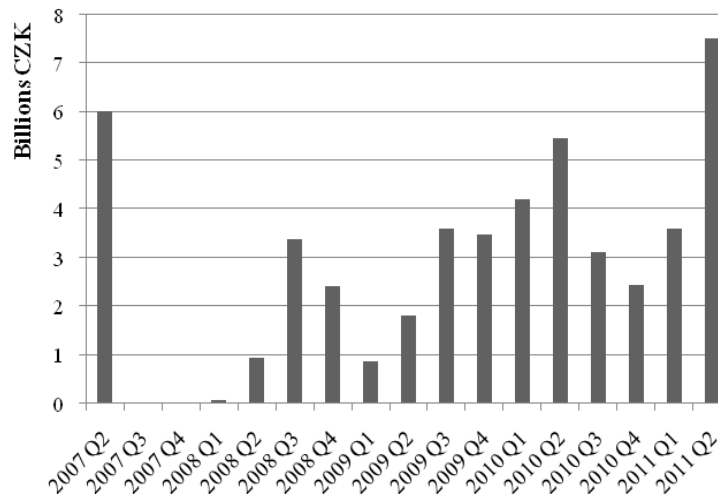
Operational Program Enterprise and Innovation has been chosen for several reasons. According to Table 3 it is the second biggest program. The name and focus of the program prove that this program is designed exclusively for profit organizations and it should support ideas which are needed in a crisis period. Many companies survived hard times thanks to innovation and launching new products or services. In terms of finances, it is the third largest Czech operational program which should get from the EU funds, the amount of EUR 3.04 billion. In addition, the program financing is to be increased by another EUR 0.54 billion from the Czech public resources. The Operational Program Enterprise and Innovation includes seven following priority axes:

- Establishment of firms (0.4% of program budget);
- Development of firms (25.7% of program budget);
- Effective energy (11.7% of program budget);
- Innovation (25.8% of program budget);
- Environment for enterprise and innovation (30.2% of program budget);
- Business development services (3.3% of program budget);
- Technical assistance (2.9% of program budget).

Source: Operational Program Enterprise and Innovation.

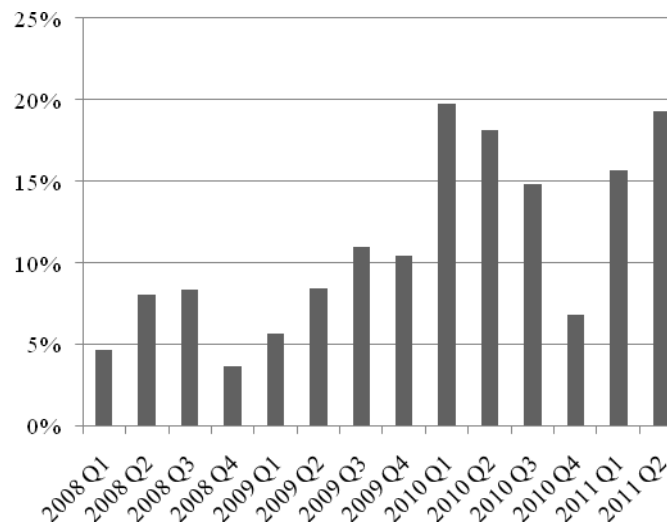
4.4. Results

Results of our work are two figures mentioned below. First we tested the value of acquisitions of allocation for Operational Program Enterprise and Innovation. The greatest acquisitions can be detected for the second quarter 2007 and the second quarter 2011. But a significant increase is also typical for the period third quarter 2009 – second quarter 2010. It means that Operational Program Enterprise and Innovation was really a possible additional source of money for companies during a crisis period. Results from the first figure are supported by the next figure which shows that in the first two quarters of 2010 the share of our program was nearly 20%. Unfortunately, the results are not enough significant for confirming our hypothesis.



Source: own elaboration.

Figure 5. Value of acquisitions of allocation – Operational Program Enterprise and Innovation



Source: own elaboration.

Figure 6. Share Operational Program Enterprise and Innovation in the increase of value of acquisitions of allocation across all operational programs since 2008

Problems of confirming hypothesis are connected with these topics – the time series, available data set and announcement of application invitations. Our time series is too short and it does not allow statistical testing. We had available only data set of beneficiaries and if we had data set consisted of all appliers we would be able to come to more significant conclusions. The last factor is announcement of application invitations which is done by the government. Influence of the government is very strong as second quarter 2007 and second quarter 2011 show. The government is the last distance which takes decision if the project will be accepted or rejected.

5. Conclusion

This article focused on investment activity during crisis period and Czech Operational Programs which are part of European Cohesion Policy. Unfortunately we have not proved our hypothesis because we do not have adequate data set for behaviour of business units. Although our data set could be enough for testing governmental behaviour. Fund distribution depends on governmental decisions and their announcement of application invitations. Government may even change the terms during program period. Until now we have not collected all operational documents because there are twenty different operational programs and each has its own documentation and terms which have to be fulfilled.

But we have confirmed that financial support programmes could be an additional source of money for financing investment during crisis period.

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