Charles University in Prague

Faculty of Social Sciences
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BACHELOR THESIS

An analysis of the determinants influencing the probability of cancellation for projects receiving EU funding

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Academic Year: **2012/2013**

Declaration of Authorship

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature.

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Prague, July 31, 2013

Signature

Acknowledgments

I would hereby like to express my gratitude to my supervisor ing. Monika Martišková for her useful comments, remarks and for introducing me to the topic. My gratitude belongs also to Metoděj Bohuněk who helped me acquire the data.

Abstract

This thesis approaches the problem of the cancelled projects receiving EU funding as another reference variable through which the absorption capacity of the Czech Republic may be measured. The determinants influencing the probability of projects cancellation have so far been only modestly described. Therefore, an attempt to examine some determinants influencing the probability of cancellation for projects receiving EU funding is made, first, by summarizing and describing trends of cancelled projects in the programming period 2007 – 2013 and, second, by econometric inference trying to find the possible determinants. The data shows the ever increasing trend of cancelled projects and large share of the Operational Program Enterprise and Innovations on all cancelled projects. It was found that it is the size of the paid amount for projects that determines negatively the probability of projects cancellation most significantly. Apart from that, the age of a firm and number of employees also play a significant positive role. The year 2008 when crisis broke out, is also a determining factor.

Bibliographic record

Nový, P. (2013): An analysis of the determinants influencing the probability of cancellation for projects receiving EU funding. Bachelor Thesis, Charles University in Prague, Faculty of Social Sciences, Institute of Economic Studies. Supervisor: Ing. Monika Martišková

JEL Classification	L53, R15, R58
Keywords	Cancelled projects, absorption capacity, regional policy, European Funds
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Abstrakt

Tato práce se zabývá problémem zrušených projektů na čerpání podpory z fondů EU, které jsou brány jako další referenční veličina pro měření absorpční kapacity České republiky. Faktory ovlivňující pravděpodobnost zrušení projektů byly dosud jen povrchně popsány. Z tohoto důvodu je cílem práce pokusit se prozkoumat některé faktory ovlivňující pravděpodobnost zrušení projektů na čerpání podpory z fondů EU; nejprve shrnutím a popsáním trendů zrušených projektů, poté ekonometrickou analýzou zkoumající možné faktory. Data ukazují na rostoucí trend zrušených projektů a velký podíl projektů programu Podnikání a inovace na zrušených projektech. Bylo zjištěno, že nejvýznamněji ovlivňuje pravděpodobnost zrušení projektu velikost proplacené částky (negativně). Významný kladný vliv na pravděpodobnost zrušení má také stáří firmy a počet jejích zaměstnanců. Určitou roli hrál i rok 2008, kdy vypukla krize.

Bibliografická evidence

Nový, P. (2013): Analýza determinantů ovlivňujících pravděpodobnost zrušení projektů na čerpání podpory z fondů EU. Bakalářská práce, Univerzita Karlova v Praze, Fakulta sociálních věd, Institut ekonomických studií. Vedoucí práce: Ing. Monika Martišková

Klasifikace	L53, R15, R58
Klíčová slova	Zrušené projekty, absorpční kapacita, regionální politika, evropské fondy

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List of abbreviations and acronyms

AME	Average Marginal Effect
CAP	Common Agricultural Policy
CF	Cohesion Fund
CR	Czech Republic
CSF	Community Strategic Framework
ČSÚ	Český statistický úřad
EC	European Community
EK	Evropská komise
ERDF	European Regional and Development Fund
ESF	European Social Fund
EU	European Union
GDP	Gross Domestic Product
GNI	Gross National Income
ISPA	Instrument for Structural Policies for Pre-accession
LPM	Linear Probability Model
MEA	Marginal Effect at the Average
MMR	Ministrerstvo pro místní rozvoj
MPO	Ministerstvo průmyslu a obchodu
MRD	Ministry of Regional Development
NDP	National Development Plan
NSFR	National Strategic Reference Framework
NUTS	Nomenclature des unités territoriales statistiques
OLS	Ordinary Least Squares
OP	Operational Program
OPEI	Operational Program Enterprise and Innovations
PHARE	Pologne-Hongrie Actions pour la Reconversion Economique
SAPARD	Special Accession Program for Agriculture and Rural Development
SEA	Single European Act
SME	small and medium-sized enterprises
TEU	Treaty on European Union
UK	United Kingdom

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ACADEMIC YEAR 2012/2013

BACHELOR THESIS PROPOSAL

Student	**Petr Nový**
Subject	**Economics**
Supervisor	**Ing. Monika Martišková**

Proposed Topic:

An analysis of the determinants influencing the probability of cancellation for projects receiving EU funding

Topic Characteristics:

The effects of EU Structural funds have been empirically proven, though to different degrees. One factor, among others, that influences the effects of the EU funds is the so-called absorption capacity on the supply and demand side and is a subject of research in many studies.

The aim of this thesis is to analyze the determinants influencing the probability of cancellation the approved projects receiving EU funding as one of the factors that determine the absorption capacity of beneficiaries. The research will be based on the list of beneficiaries that had their approved project cancelled, particularly in the Operational Program Enterprise and Innovations (OPEI) 2007-2013 period in the Central Bohemian Region in the Czech Republic

Outline:

1. Absorption capacity
2. European Funds and the Czech Republic
3. Central Bohemian Region – data description
4. Model a results interpretation
5. Conclusions and recommendations

Topic Characteristics:

Efekty strukturálních fondů Evropské unie byly empiricky dokázané, i když se jejich velikost liší. Jedním z faktorů, který ovlivňuje efekty fondů EU, je tak zvaná absorpční kapacita na straně nabídky i poptávky, která je předmětem výzkumu mnoha studií. Cílem této práce je analýza determinatů ovlivňujících pravděpodobnost zrušení schválených projektů na financování z fondů EU jako jeden z faktorů, které ovlivňují absorpční schopnost příjemců. Průzkum bude založen na seznamu příjemců, jejichž schválené projekty byly zrušeny, konkrétně v Operačním programu Podnikání a inovace v období 2007-2013 za Středočeský kraj v České republice.

Osnova:

1. Absorpční kapacita
2. Evropské fondy a Česká republika
3. Středočeský kraj – popis dat
4. Model a interpretace výsledků
5. Závěry a doporučení

Core Bibliography:

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Ministerstvo průmyslu a obchodu České republiky: Operační program Podnikání a inovace, 2012

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1. Introduction

The effects of the regional policy of the European Union have so far been subject to many research studies. They have been explored and described by many authors (e.g. Marzinotto, 2011; Boldrin and Canova, 2001; Checherita et al., 2009; Ederveen, 2006), bringing forth mostly positive results. The absorption capacity of the Czech Republic has also been examined in depth (Macháčková, 2010; Monthly Monitoring Reports of the Ministry of Regional Development (MRD), various ad hoc evaluations of MRD). However, the phenomenon of the once approved projects that ended up being cancelled has not yet been thoroughly described. Up to the middle of 2013, 3.21% of all projects were cancelled. More striking is the percentage of the cancelled projects under the Operational Program Enterprise and Innovations (OPEI). By the end of March 2013, 10% of the OPEI projects were cancelled. The determinants influencing the probability of project cancellations will be analyzed using two different models. A brief insight into the experience of the beneficiaries whose projects were cancelled will also be attached.

This thesis is organized in six chapters. The second chapter summarizes the historical development that stands behind the contemporary form of the regional policy, describes the guiding principles and instruments, touches on the topic of budget and its issues and establishes a theoretical framework of absorption capacity, to which an analysis of the cancelled projects intends to contribute.

The third chapter aims to explain the framework of the regional policy of the Czech Republic, not only for general knowledge, but also because of the close connection to the terms that will be used.

The fourth and fifth chapters form the core of this work. The former one deals with the Czech absorption capacity more in depth and with the overview of the submitted applications. The latter one includes an econometric inference.

The sixth chapter deals briefly with a few responses from the unsuccessful beneficiaries. This data does not produce sufficient evidence to prove this thesis, but it does add an interesting piece of experience.

2. General background

This chapter aims to set a theoretical framework for the upcoming analysis. The

regional policy will be defined, its history, tools, principles and a description of a current situation, followed by the theoretical underpinnings of the absorption capacity. The main problems of absorption capacity in general will also be addressed.

2.1. What is a regional policy?

Wokoun (2003, p.14) defines the regional policy as a "*conceptual and purposive activity of a public authority aiming to eliminate the negative consequences of the unbalanced territorial economic development*." Many theoretical studies and regional case studies conclude that the free market exerts forces that lead to the dynamic, but unbalanced regional development. These forces contribute to the creation of strong industrial agglomerations that drive all the economy, but also create social and economic disparities within the country. In such situations the regional policy should serve as a compensation for these losses. Regional policy should also help mobilize the external savings, i.e. economic profit resulting from the concentration of economic activity - know-how and new technologies. The regional policy should mitigate the negative consequences of a market imperfection. However, a decent degree of regional differences is healthy (Wokoun, 2003, p.14-15).

Regional policy has been of vital importance in Europe because the large territorial discrepancies of the European Union undermined social cohesion (Nijkap and Abreru, 2006, p.8). Regional policy of the European Union is one of the most significant activities of the European Union, having the second largest share on the EU budget, right behind the Common Agricultural Policy (Marek & Kantor, 2009, p.17). As the European Commission states, the Regional Policy is the expression of the EU's solidarity with regions and countries lagging behind (European Commission, 2012). Regional policy gained even greater importance after the two enlargements of the EU in 2004 and 2007 for several reasons. First, all acceding countries were below the EU GDP average and had a few very poor regions. Many of these regions were peripheral and their problems needed to be addressed in the long term. Economic disproportions impact the total economic performance (output) significantly. Secondly, reducing these disparities should enhance competitiveness and improve development (Marek & Kantor, 2009, p.17-18). For instance, firms placing their production units into such regions

boost economic activity, this implies lower unemployment and consequently decreased public expenditures.

Enhanced economic activity also creates markets for new products, technologies and know-how (Kapošváryová and Kreuzbergová, 2000). Tools of regional policy help cushion the effects of the integration process, e.g. the necessity of restructuring of declining industries or Common Agricultural Policy (CAP). The convergence of single countries is required for the adoption of monetary union. (Marek & Kantor, 2009, p.17-18).

2.2. History of European Regional Policy.

The following section deals with the historical background of regional policy more in depth, since it has had a significant impact on a current shape of the EU regional policy. It is divided into five logical time periods from the very beginning up until now – 2013.

History of the regional policy in the European territory can be traced back to the Great Depression of the early 1930s. Two countries stood out during this history. After the crisis was abated, Italy went on with the long-term regional policy, due to its persisting problems in the region Mezzogiorno. In addition, the UK focused on industry restructuring and support for the unemployed (Dlouhá, 2008, p.5).

2.2.1. Period of 1951 – 1973

From the very beginning the Member States recognized that disparities among the regions were not desirable. In the preamble to the Treaty of Rome the need "*to consolidate the unity of their economies and to ensure the harmonious development by diminishing the differences between regions, as well as the gaps confronting the less favored regions*" is found. However, there was a predominant belief in free market forces taking responsibility, therefore, the Common Regional Policy was not put into practice then. Last but not least, we see that the discrepancies between the founding members of the European Economic Community were of minor significance, with one exception – Italian Mezzogiorno. In this period, the European Investment Bank was established. Its role was to make loans and guarantees available for small and medium-sized enterprises (SME) in regions lagging behind. On this basis, the European Social

Fund and European Agricultural Guidance and Guarantee Fund were created (Kapošváryová and Kreuzbergová, 2000). Regional policy was carried out in the form of isolated projects (Potluka et al., 2003, p. 28). In 1968, the Directorate-General for Regional Policy that was in charge of coordinating the regional policy was established (Marek & Kantor, 2009, p.19)

2.2.2. Period of 1973 – 1987

Regional policy started to be a burning issue after the United Kingdom, Ireland and Denmark joined the European Community (EC) in 1973. It was the UK that exerted pressure on creating a common regional policy, because it was a country with large regional disparities. Not only that, the UK was a net contributor to the Community budget and wanted some compensation for the losses caused by the Common Agricultural Policy (CAP).

After many negotiations, in March 1975, the European Regional Development Fund (ERDF) was founded. This was a highly politicized matter and various Member states had different approaches. While the UK, Ireland and Italy wanted the Fund to be large, Germany and Belgium desired quite the opposite (Marek & Kantor, 2009, p.19). In the first years the ERDF had only a moderate amount of finances at disposal and reallocated them to states via fixed quotas. Money was assigned automatically, once the Member State submitted regional projects to the Commission. The distribution of finances themselves was up to each Member State. This Fund's share of the Community budget was only 5%. Most of the money was spent on infrastructure (Pešta, 2004, p.10).

Another pressure on regional policy enhancement came after Greece's accession in 1981 and Iberian enlargement in 1986. These countries were dependent on agriculture and economically poorer, compared to the rest. By their accession the number of regions having GDP below 50% of the average of the member countries doubled. A heavier emphasis was put on regional policy thanks to the economic difficulties of traditional industrial regions of developed countries (e.g. the UK, northern France, Belgium, northern Spain and Italy). These problems were caused by the recession resulting in increased unemployment.

The ERDF was often criticized for being too small, dispersed and for breaking its principles by some states. In the following few years, two reforms were adopted, yet with poor results (Marek & Kantor, 2009, p.19).

2.2.3. Period of 1988 – 1993

In 1987, a significant reform of regional policy was introduced as a result of the Single European Act (SEA) being brought in that year. The SEA led to the creation of the internal market until 1992. Moreover, the SEA added some articles to the Treaties of Rome where it claims that *'Community shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favored regions or islands, including rural areas*' (Article 130a of the SEA). The heading of Title V of the SEA introduces the expression "Economic and Social Cohesion".

Unsatisfactory economic development accompanied by ever increasing unemployment in the 1980s was another incentive for the reform. Traditional industrial branches such as coal mining, steelmaking and textile industry were affected by these problems (Kapošváryová and Kreuzbergová, 2000).

The reform was a large step forward, because it said that disparities reduction should be done by three structural funds. The reform came into effect on January 1, 1989. It constituted four main principles of regional policy: concentration, programming, partnership and additionality. *Concentration* aims to focus region's effort on the Community Objectives. *Programming* introduces the setting up of multi-annual plans of regional development. Ad hoc projects were no longer financed, whereas long-term projects started to be preferred. This should have helped coordinate the various Community financial tools and reconcile European regional policy with national ones. *Partnership* means a close cooperation of the Commission with national and regional bodies on planning and project realizations. *Additionality* guarantees that Community only complements, not substitutes the activities of national authorities (Kapošváryová and Kreuzbergová, 2000). The main difference was that EC was no longer in charge of the decision-making process, instead the states were. The executive body of the European Commission was freed from dealing with single projects and could start to engage in conceptual matters and managing (Potluka et al., 2003, p.30).

The structural politics, along with parts of social and agriculture policy was integrated into the so-called "structural policy" that was represented by three funds: the ERDF, the European Social Fund and European Agricultural Guidance and Guarantee Fund. The reform also doubled the portion of financial resources for the programming period of 1987 - 1993.

Signing the Treaty on European Union (TEU) in Maastricht in February 1992 was another landmark. The negotiations were difficult, lengthy and many issues were agreed upon at the last minute. The Treaty put in Article B the objective "*to promote economic and social progress which is balanced and sustainable, in particular through the creation of an area without internal frontiers, through the strengthening of economic and social cohesion and through the establishment of economic and monetary union, ultimately including a single currency in accordance with the provisions of this Treaty*" (TEU, p.7) In 1993, it was decided to reallocate of three billion ECU[1] for meeting the peculiar needs of 5 new *Länder*[2] in Germany (Marek & Kantor, 2009, p.20-21).

The policy was implemented in this period for the first time, not on an annual basis, but within medium-term so-called financial perspectives (or programming periods). For the first one: 1989 - 1993, the first five objectives were set and the European Regional Policy became vital and national regional policies turned out to be mere complements to the central regional policy. (Potluka et al., 2003, p.30).

TEA founded the Committee of the Regions which was supposed to stand for the interests of local authorities, hence, all the aspects of ERDF resources allocation should have been discussed with this Committee. However, the Committee of Regions failed to have a strong impact on EU policy-making (Wallace et al., 2005, p.219).

In Maastricht the convergence criteria for the introduction of the third stage of monetary union was set up (Pešta, 2004, p.16). As a result of Spain's pressure, in 1993, the Cohesion Fund was established. This tool aimed at helping economically backward countries meet the Maastricht's criteria. States whose GDP p.c. was not higher than 90% of the EU average were eligible, i.e. Spain, Greece, Portugal and Ireland. It is notable that the Cohesion Fund is not included in the structural funds. In 1994, Financial

[1] ECU= European Currency Unit
[2] *Länder* stand for five new lands that joint Western Germany after the fall of Communism

Instrument for Fisheries Guidance was established as the fourth of the structural funds (Marek & Kantor, 2009, p.22).

2.2.4. Period of 1994 – 2006

The objectives of regional policy proved successful, therefore, they were extended to the next programming period of 1994-1999 (Wokoun, 2003, p.25). Only a sixth objective was added, aiming at helping regions with a low population density, severe northern climate and remote areas of Sweden and Finland. In this period, 51% of the EU residents occupied the regions that qualified for structural funding and the amount of each year's allocated sum almost doubled during this programming period, compared to the previous one (Pešta, 2004, p.17).

The Amsterdam Treaty of 1997 confirmed the crucial role of structural policy. At the Madrid European Council in 1997, the European Commission was asked to work out a plan for the Eastern enlargement of Europe. The Agenda 2000 document shed light on a future direction of the EU. (Marek & Kantor, 2009, p.22). It sketched the third financial perspective suggesting that total structural expenditures would not exceed 0.46% of the EU GDP. 275 billion €[3] were to be allocated within the 2000-2006 period. Out of this total, 45 billion € were designated for potential candidate states as a pre-accession and post-accession aid. The Commission put forward the further funds' concentration and simplification of the funds' implementation. Hence, the number of the objectives was cut down to three (Wallace et al., 2005, p.222). *Objective* 1 aimed to foster the development of regions lagging behind, i.e. the ones having GDP p.c. below 75% of the European average. *Objective 2* covered the help to regions going through economic and social restructuring. *Objective 3* aimed at helping with human resources and dealing with unemployment issues (Marek & Kantor, 2009, p.22).

It is important to mention that at the Berlin European Council Meeting new financial tools to help new candidate countries were introduced. These are: Instrument for Structural Policies for Pre-accession (ISPA) and Special Accession Program for Agriculture and Rural Development (SAPARD). These funds were to finance environmental projects, road networks and agriculture for the 2000-2006 perspective,

[3] In 1997 prices

having 80 billion € at their disposal. These tools were completing the PHARE program[4] that was originally designated for Hungary and Poland, other candidates joined PHARE later (Marek & Kantor, 2009, p.22).

2.2.5. Period of 2007 – 2013

Eastern enlargement increased vastly the regional disparities within the EU. Accession of ten new members increased the population by 20%, but GDP rose only slightly to 4 - 5%, reducing the average income by 10%. Should the economy stay unreformed, the collapse would soon occur. In February 2004, the European Commission introduced the proposal for the upcoming programming period 2007-2013. The main feature was the issue of Cohesion Policy. It was called: *New partnership for cohesion: convergence, competitiveness and cooperation*. The Cohesion Policy occupies the ambitious role of the February 2004 approved budget. Soon afterwards, the Third report on economic and social cohesion was released. This report proposed a reform of the Cohesion policy. On this basis, the European Commission submitted a proposal for the *New partnership for growth and employment* which was subsequently approved and published.

For the period of 2007-2013 the following objectives were set: Convergence, Regional Competitiveness and Employment and European Territorial Cooperation. (Marek & Kantor, 2009, p.23-24).

- **Convergence** – the main purpose is the reduction of regional disparities. It is designated for regions having GDP p.c. lower than 75% of the EU average to balance the level with the more favored ones. The regions that were shifted just above the 75% border (of EU GDP) due to the most recent enlargements obtain the aid from the Cohesion Policy as well, which is so-called "phasing out". This objective covers 81.5% of the EU budget and the ERDF, the ESF and Cohesion Fund support this objective.

- **Regional Competitiveness and Employment** – "*The aim is to create jobs by promoting competitiveness and making the regions concerned more attractive to*

[4] PHARE= from French Pologne-Hongrie Actions pour la Reconversion Economique= Poland and Hungary: Action for the Reconstruction of the Economy, phare also means a lighthouse in in French (Euractiv 2007)

businesses and investors" (European Commission, 2012b). This objective concerns all regions in Europe that were excluded in the Convergence objective. It aims to boost even greater development to create the domino effect and eradicate any abiding poverty. Regions that were below 75% limit now get the "phase in" aid. This objective's share on the total budget is 16%.

- **European Territorial Cooperation** – the "cooperation across borders" (regional or state) which would come to pass otherwise. This objective covers only 2.5% of the total EU budget. ((European Commission, 2012b)

Last but not least, there are four Special Support Instruments that complement the Objectives. These were jointly introduced by the European Commission, the European Investment Bank and other financial institutions. Their goal is to increase the efficiency and sustainability of the structural policy.

Jaspers is designated for the last 12 newly accessed countries and aims to back them up when preparing large and composite projects. *Jeremie* enables access to finances for the SME. *Jessica* covers sustainable development of urban areas. *Jasmine* deals with micro-credit providers and strives to improve their services. (European Commission, 2013a)

2.3. Guiding principles

The utilization of regional assistance is currently determined by the following principles:

- **Concentration** – aims at targeting the expenses to the regions with greatest structural problems. These regions are selected on the priority objectives basis. These objectives are defined by both the European Commission and Member States. Application of this principle brings in greater efficiency and ease of control and monitoring.

- **Programming** – structural funds are allocated based on multi-annual and multi-sectoral plans of regional development which are subject to negotiations of Member States and European Commission. This ensures that finances are not allocated to the single projects, but to integrated, long-term programs.

- **Partnership** – demands the active participation and cooperation of the European Commission and corresponding sub-national, regional and non-governmental organizations and authorities at all stages of administration, i.e. planning, managing, evaluation and monitoring. In this process regions, cities, municipalities as well as private objects should be involved.

- **Additionality** – this principle states that the EU means of support should only complement the costs of the beneficiaries. They should not substitute the national resources, but only be a portion of the subsidy. This takes the interests of Member States into account, thus boosting efficiency of financial aid itself.

- **Monitoring and Evaluation** – the meaning of these is ever increasing. The efficiency is regularly controlled and evaluated in three ways: *ex ante*, *interim* and *ex post*, which mean before, during and after the project respectively. (Marek & Kantor, 2009, p.27-28)

2.4. Instruments

The main financial instruments for this period are three funds. European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund (CF). The first two are referred to as "Structural Funds".

European Regional Development Fund – as mentioned above, the fund came into force in 1975. At first, the financial aid was used for the restructuring of the regions in industrial decline, later also for other areas (Dlouhá, 2008, p.13). In 1988, it became a part of the regional policy and has had an increasing significance since that time. Its role is constituted in the regulations of the Founding Treaty, and is also a consequence of the Structural Funds tasks in general. Nowadays, it supports projects on regional development, economic changes, greater competitiveness and territorial cooperation within the EU. The ERDF prioritizes research, innovation, environmental protection and risk prevention. The financial aid goes to infrastructure, especially in the least developed regions (Marek & Kantor, 2009, p.28-29). It also aims to reduce the disparities in towns and geographically underprivileged (of low density, distant, mountainous) areas (European Commission, 2013b).

European Social Fund is the oldest fund. It was established based on the Rome Treaty and currently is the main instrument of social and employment policies. (Marek & Kantor, 2009, p.29) It focuses on the stimulation of the employment and human

resources. It supports retraining projects, integration of disadvantaged people into employment, the creation of innovative educational networks, promoting the usage of IT and communication technologies in education etc. (Dlouhá, 2008, p.14).

Cohesion Fund – the Cohesion policy was set up by the Single European Act in 1986 and aims to reduce the economic and social disparities within the EU. The Cohesion Fund was formed by the Maastricht Treaty (Article 130a) in 1993 to support states that were struggling with problems relating to the creation of the economic and monetary union. The Cohesion Fund is not a structural fund. The states with GDP lower than 90% Community average, which concern new Member States, Greece, Portugal and partially Spain, are eligible. The Cohesion Fund focuses mainly on environmental projects and trans-European transport networks. It also covers the sustainable development, i.e. energy policy and renewable energy. Unlike the structural funds, it has not focused on long-term programs, but on specific projects. (Marek & Kantor, 2009, p.29-30). The financial involvement of the Cohesion Fund may be lingered by "*a Council decision if a Member State shows excessive public deficit and if it has not resolved the situation or has not taken the appropriate action to do so*." (European Commission, 2012c).

2.5. The way to the budget for the period 2007 - 2013

The financial perspective is a multi-annual financial framework. It is an inter-institutional agreement between the European Commission, European Parliament, and the Council of Europe (so-called trialogue). This framework is negotiated for 5-7 year periods. It comprises the main budgetary priorities and their ceiling (Marek & Kantor, 2009, p.30).

The EU has 864 316 billion EUR as liabilities, which is 1,048% of the EU GNI[5]. The negotiations of this financial perspective were fairly difficult, since each financial framework is primarily an expression of political priorities and visions of the future EU functioning.

The first proposal was submitted in February 2005, the second one in July of the same year. Despite all the hard effort that Luxembourg (held presidential position in the Council of the EU) made, the budget was not approved even during the Council of the EU meeting in June 2005. The next presidency was the UK's, which submitted a

[5] GNI = Gross National Income

proposal for the next programming period on 5th December, 2005. The biggest thorn in other states' side was still the British rebate. For this and other reasons, this proposal was rejected. On 16th December, 2005, the compromise was made and the second British proposal was accepted. Within the 2007 - 2013 perspective, the budget must not exceed 852 363 billion EUR, i.e. 1,045% of the EU GDP in the liabilities and 819 380 billion EUR, i.e. 0,99% EU GDP in the payments. However, this proposal was blocked by the European Parliament the following January. That opened the trialogues, consensus was reached on 4th April, 2006, leading to 864,314 billion EUR, i.e. 1,048% of the EU GNI in the liabilities and 820,780 billion EUR, i.e. 1,00% EU GDP in the payments (Šímová 2011a). For the Cohesion Policy, 347,410 billion EUR, i.e. 35.7% of the overall budget were earmarked. Following the last enlargement of 2007 (Romania and Bulgaria), the economic and social disparities widened considerably. The average GDP in inner London amounts to 290% of the EU average, whereas the poorest region in Romania averages only 23%. Recall that the Cohesion Policy prioritizes the growth, employment and innovation in this period. (Novák & Fričová, 2011)

2.5.1. The budget criticisms

As mentioned above, the size of the EU budget is not only an economic item, but the result of political agreements. The biggest issues concerning the EU budget are the size of the budget, budgetary balances, reliefs for the biggest net contributors (incl. the British rebate), the Common Agricultural Policy and the structural help.

Concerning the size of the budget, the countries tend to negotiate the highest amount of money at the lowest prize of their contributions. This means that the biggest net contributors generally demand lower budget, while the net beneficiaries prefer bigger expenses which results in bigger revenues for them.

Concerning the Common Agricultural Policy (CAP), the British rebate was introduced in 1984 as the result of Margaret Thatcher's negotiations. The rationale behind that was that the UK was paying sums larger than their returns, because it had a small agricultural sector. The current system setting is due to the last decade's development unsustainable, very complicated, outdated and fairly unjust.

Financially, the CAP is demanding and unjust. For some states it is more profitable than for others. Since 1988, it was reformed to decrease the financial inequality.

The Cohesion Policy is based on the solidarity among the EU Member States. The recent enlargements significantly increased the demand for structural help. To support the funding, the rules for utilization were relaxed. The n+2 rule that permits the states to gain the funding two years after the end of the programming period, was modified to n+3. The understanding of the structural policy was also shifted from being perceived as a constant policy, to being a contemporary instrument for boosting the industrial convergence and restructuring efforts. Many experts argue that financial resources should be directed solely to the poorer regions to make the funding efficient. Currently, approx. half of the funding goes to the older Member states: the EU 15. The statistical effect[6] was resolved by providing so-called "phasing out" benefits (explained above) (Šímová, 2011b).

2.6. Absorption Capacity

This section provides a theoretical framework for the absorption capacity that will be more examined later. The greatest problems of absorption capacity at the European level for the current period 2007 - 2013 are outlined afterwards.

2.6.1. Definition and division

Cace et al. (2009, p. 15) define the absorption capacity as "*the degree to which a country is capable to spend, actually and efficiently, the financial resources allocated from the Structural Funds.*" The absorption capacity can be viewed from two angles:

I. **Absorption capacity on demand side** – is the ability of the potential applicants to submit and co-finance acceptable projects.

II. **Absorption capacity on supply side** – is the ability of institutions to redistribute purposively and effectively the money from the funds.

The supply side of the administrative capacity refers to three main factors:

1) ***Macroeconomic absorption capacity*** – This one relates to the GDP. According to Council Regulation No 1264/1999 the annual financial support from both the Cohesion Fund and Structural Funds to the eligible states *must not exceed 4% of GDP* (Cohesion Fund, 2013) The states should also increase their budget to GDP ratio.

[6] Enlargement statistical effect denotes the regions that were eligible for the structural help, but are no more after the last two enlargements due to the lowering the EU GDP.

2) ***Financial absorption capacity*** stands for the ability of central and local governments to co-finance the programs and projects on EU funding and "*to plan and guarantee these domestic contributions in multi-annual budgets and to collect them from the different partners involved in a project or program."* (Cace et al., 2009, p. 16).

3) ***Administrative absorption capacity*** relates to the capability of the regional governments to arrange convenient plans, programs and projects at the right time, to manage all the administration of projects and their subsequent implementation, trying to refrain irregularities. This capacity can be described in terms of structure, human resources, systems and tools. *Structure* comprises departmental responsibilities and their clear distribution, also supervisory authorities – Monitoring Committees, Auditing Committees etc. *Human resources* take care of the provision of the highly skilled and trained workers and their motivation. *Systems and tools* refer to the instruments that are available, i.e. means, methods, processes, handbooks, systems etc. The administrative capacity depends on the policy life cycle (Šumpíková, Pavel & Klazar, 2004, p.2), whose stages are: problem definition, agenda setting, policy adoption, implementation and evaluation (Public Policy Grantmaking Toolkit 2013).

2.6.2. The root causes of the absorption capacity problems

The absorption capacity is a variable and alters from state to state. Hence, each EU Member State requires a special treatment to combat its problems. Following you can see a list of the major difficulties.

- ***First obstacles at the start of the programming period*** – Member States failed to evaluate their compliance regarding the new management and supervisory system as the European Council directed. This caused payment deferments, since the Commission's approval was the assumption for the interim installment. Moreover, the parallel employment of two programming periods created an obstruction at the start of this period (2007-2013).

- ***Financial problems*** – the economic crisis brought big problems when drawing on funds. This resulted in problems with the showing of results, shifts in anticipated demand and tight constraints on national or regional public spending. Finding adequate resources to co-finance projects became difficult.

- ***Regulatory requirements*** – the current period regulatory scheme is somewhat clearer, though extra acts are required. Some problems are due to a lacking compliance of the national rules with the European ones. A few Operational Programmes

had the troubles when applying the eligibility criteria, there was a number of national networks of rules according to the number of the states involved. Some misunderstandings may be caused by to inaccurate translations of guidebooks. National requirements as well as European ones change within this financial perspective which causes confusion when implementing the funds allocation.

- ***Organisational requirements*** – wrong setting of the institutions: either the lack or doubling of the positions or insufficient distribution of tasks and responsibilities.

- ***Human resources*** – as the need for monitoring rises, the lack of staff and their qualification becomes an enormous problem. The crisis-driven redundancies and employee retention address other problems.

- ***Information technology systems*** – inadequate and belated Commission instructions, issues with the installation of IT systems.

- ***Control requirements*** – enhanced controlling mechanisms are at the expanse of fulfilling the objectives of operational programs. The deviation from the content is noteworthy.

(Report, 2011, p. 14-16).

3. Regional policy in the Czech Republic

The accession of the Czech Republic to the EU created a need to prepare a lot of strategic and programming documents that have to comply with the EU documents. The Czech documents are of two kinds; the former aim at supporting national regional development, the latter serve the EU regional policy.

The basis for the national documents is made through the Community Strategic Framework (CSF), which is the framework for the strategic document of the EU regional policy. It contains the main principles and priorities of the economic and social cohesion for the 2007-2013 programming period. It provides recommendations referring to the most efficient funds utilization. On this platform, each Member State should prepare a National Strategic Reference Framework. The process of approval of the Community Strategic Framework was very time-consuming. The current CSF was introduced on 13th July, 2006. The Commission recommends the increase of the attractions for investments in cities and regions, innovation projects, growth of the

knowledge-based economy and the projects for the quality job creation. (Marek & Kantor, 2011, p. 33-34)

3.1. National Development Plan

The National Development Plan (NDP) has a crucial position among other programming documents. It sketches the priorities to be completed, draws up the priorities' sub-goals and their implementation procedures and describes the system of the economic and social policy coordination, whose key points are reflected in the National Strategic Reference Framework (NSRF). The NDP serves as the background material for negotiating the NSRF with the European Commission.

The expert team was assigned to work out the NDP. This team consisted of representatives of the state administration (ministers), Cohesion Regions NUTS II[7], Czech Chamber of Commerce, Czech Statistical Bureau, academic spheres, businessmen, and the non-profit sector.

The Czech Republic emphasizes the strengthening of the competitiveness of the key economic sectors and thus contributes to the overall EU competitiveness. The long-term global goal is to create an attractive place for investments, labor and life, via strengthening competitiveness. Thus the sustainable growth should be attained and its pace should exceed the EU-25 average. The Czech Republic also strives for the growth of employment and a balanced regional development. This all should lead to the increase of the living standard.

To achieve the global goal, four strategic priorities were set:

1. Strengthening competitiveness
2. Open, flexible and cohesive society
3. Attractive environment
4. Balanced territorial development

Four priority axes link to these goals, and these axes are divided into particular priorities. (Marek & Kantor, 2011, p.35-36)

[7] NUTS = Nomenclature des unités territoriales statistiques = Nomenclature of Territorial Units for Statistics. Nuts I. – V. were created for the statistical purposes, they are determined by the terrirtorial area and population. The aim was to get comparable units not only within the CR, but whole EU. In the CR, there are 8 NUTS II regions, each of them populated by more than one million. (Marek & Kantor, 2009, p. 35)

3.2. National Strategic Reference Framework

The National Strategic Reference Framework (NSRF) is one of the basic programming documents. It is created by the Member State using the partnership principle and is a platform for the individual Operational Programs that are negotiated with the Commission. The NSRF reconciles Community and national priorities. The NDP was the basis for drawing up the NSRF. It was passed by the Commission in July, 2007. The NSRF summarizes Czech priorities and describes the implementation strategy required for the effective funds utilization. The structure of these documents result from the EU legislative.

The NSRF is composed of two parts – strategic and operational. The strategic part specifies the strategy for the Cohesion Policy objectives implementation. The operational part defines all the operational programs and their financial allocation. The NSRF highlights these typical issues for the Czech Republic: poor enforceability, insufficient institutional structures supporting the modern enterprise, a lack of qualified labor force, outmoded educational system, lack of effectiveness of the public affairs administration, regional disparities and worsening of their future perspectives and last but not least: insufficient infrastructure (Marek & Kantor, 2009, p. 36-37).

3.3. Operational Programs

This section is dedicated to the operational programs that are listed below, depicts the system hierarchy and describes the OP Enterprise and Innovations as a representative of the thematic OPs.

Money from the Structural Funds is available through the so-called operational programs (OP). From the applicant's point of view these programs are of immense importance. They describe the overall priorities, management, financial resources and they specify areas of intervention at both the national and regional levels. They are subject to Commission's approval (Marek & Kantor, 2009, p.37).

The realization of the Cohesion Policy is in accordance with the Programming principle, the projects are picked after their ability to address the problems outlined in

the strategic documents. This approach should ensure that operational programs and projects follow the Cohesion Policy objectives.

The OPs define the problems the Czech Republic wants to solve by using the finances from the EU budget and what it wants to achieve by that. OPs fall into priority axes, which specify the target of the allocated finances more thoroughly.

The Czech Republic negotiated 26 programs for the 2007-2013 period. There are two variants of programs: thematic and geographical. The former group includes transport, research and development, employment, environment etc. The latter one includes two programs for Prague and another one for the Cohesion regions – Central Bohemia, South – West, South – East, Moravia -Silesia etc. The remaining OPs enable cross-border, interregional and supranational cooperation or provide technical, administrative and research background for the Cohesion Policy execution. The table of all Operational Programmes follows.

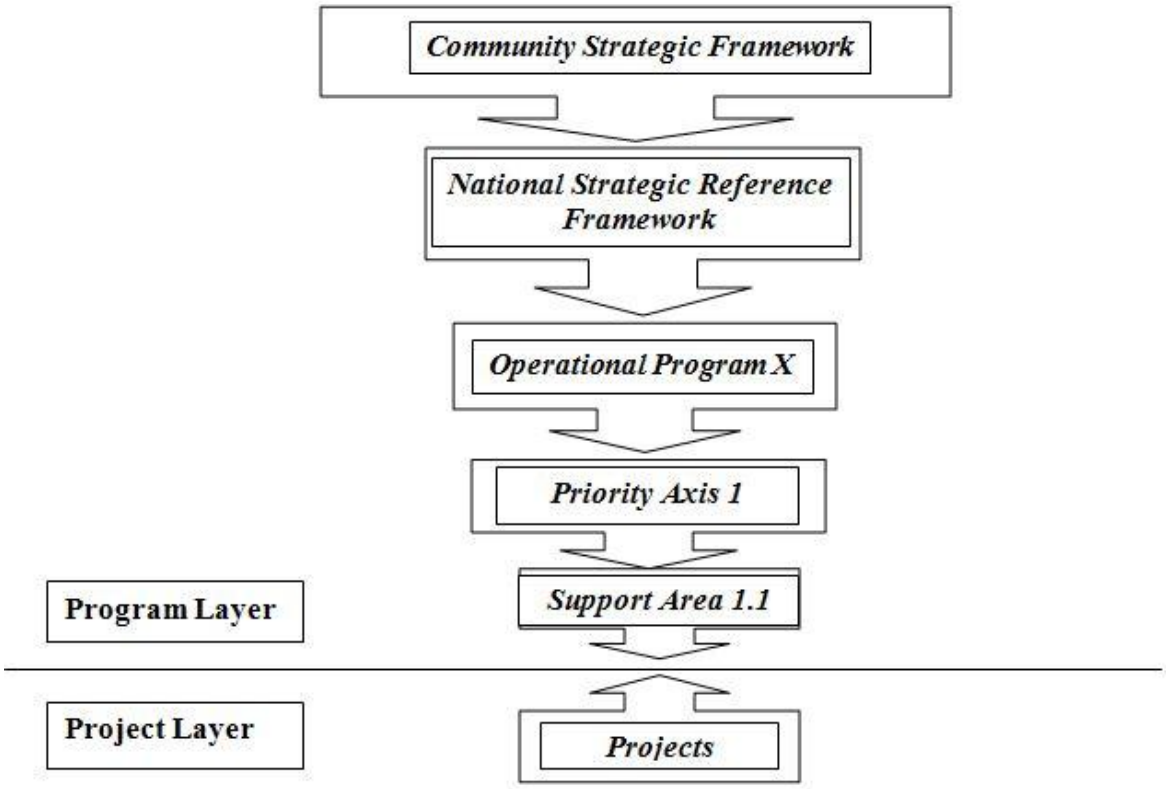
Table 1: Operational programs

Operational Programs		
Regional - NUTS II	**Thematic**	**Interregional**
North-West	Transport	Cross-Border Cooperation CR-Bavaria
Moravia-Silesia	Environment	Cross-Border Cooperation CR-Poland
South-East	Enterprise and Innovations	Cross-Border Cooperation CR-Austria
North-East	Research and Development for Innovations	Cross-Border Cooperation CR-Saxony
Central Moravia	Human Resources and Employment	Cross-Border Cooperation CR-Slovakia
South-West	Education for Competitiveness	INTERREG IVC
Central Bohemia	Integrated Operational Programme	Central Europe
Prague - Competitiveness	Technical Assistance	ESPON 2013
Prague - Adaptability		INTERACT II

Source: MMR 2008a

Each subject that wants to apply for a funding from the EU has to submit a project to the Managing Authority of the operational program. The Managing Authorities of the thematic OPs are the individual Ministries, of the geographical ones it

Figure 1: Hierarchy of strategic documents



Source: MMR 2008b

is regional councils of Cohesive Regions that are in charge.

The project itself is a document that states how an applicant's activity contributes to the objectives stipulated in the OP and thus to the policy of economic and social cohesion. The applicant must be familiar with the implementing documents of the OP and follow its priority axes.

The managing authorities announce regularly the time-limited calls for the projects submission within the individual priorities axes and areas of intervention. These managing authorities accept projects from businessmen, municipalities, non-profit organizations, the state administration. Subsequently, the managing authorities evaluate the projects and allot the financial assistance based on their assessment.

For the current programming period 2007-2013 the Czech Republic has 26.7 billion Euro available which may be compared to the ¾ of the Czech national budget. (MMR 2008)

3.3.1. Thematic Operational Programs

Thematic (also sectoral) OPs are based on the NDP. The Managing Authorities are the respective Ministries that are in charge of drawing up thorough methodological material for each OP and specifying the concrete conditions for the project applications.

To raise funds within the OP, the project has to aim at one of the program objectives and meet all the requirements imposed by the Managing Authority. There are eight thematic OPs: Transport, Environment, Enterprise and Innovations, Research and Development for Innovations, Human Resources and Employment, Education for Competitiveness, Integrated Operational Program and Technical Assistance. Empirical analysis will only focus on projects under the OP Enterprise and Innovations. For this reason, more detailed description only of this program follows. (Marek & Kantor, 2009, p.39).

3.3.1.1. Enterprise and Innovations

Operational Program Enterprise and Innovations (OPEI) aims to support small and middle enterprises (SME) and boost industry as a whole. It should enhance the quality of infrastructure, increase the innovation activities, new technologies implementation as well as products and services. It should encourage SME to enter foreign markets and strengthen the cooperation of industry with research and development. (MMR, 2007). In other words, the main goal is to provide a healthy entrepreneurial environment and thus create competitive agents of business and subsequently job vacancies. The OPEI is under the Convergence objective and is funded by the ERDF. (MPO, p.6). With 3.12 Billion Euro at its disposal, the OPEI ranks third in funding from the ERDF. The OPEI is split into 7 priority axes. (MRD).

This fund finances start-up projects, focusing especially in disadvantaged regions. Sustainable energy and efficient energy utilization, as well as Research and Development and counseling networks are to be financed from OPEI (MMR, 2007). In order to obtain funding, the potential beneficiary has to specify his target, then submit an application for a specific subprogram and call. Within the call, individual projects compete to gain the support. When approved, the applicant has to carry out the project,

meeting the set targets and keeping the strict rules, e.g. regular submission of monitoring reports on project realization. After the accomplishment, the final report and the application for payment are submitted. The 3-5 years after the project is finished, reports monitoring the sustainability of the finalized projects must be submitted. In an extreme case, when not meeting the indicators, all the expenses can be claimed back (MMR, 2007).

4. Empirical Part

The effects of Structural and Cohesion Policies have been thoroughly examined, however, with different conclusions. Boldrin and Canova (2001, p.207) are highly critical of these policies, claiming that SF funds fulfill only a redistributional function and questioning their contribution to the economic growth and regional policy itself. Checherita et al. (2009, p.25) conclude that they help diminish income disparities but not necessarily boost the output per capita. Ederveen et al. (2006, p.42) finds that SF funds boost growth hand in hand with appropriate institutions.

Marzinotto (2011, p.2-3) says that their significance is underestimated and badly perceived by the bad Member States' absorption capacity. Interestingly enough, she compares their size of 2.8% of EU GDP to the post-war Marshall that was just 2% of all the then receiving countries stating that they could make a huge difference when adequately transferred.

The reason why the effects of the EU funds are rather ambiguous might also lie in the low absorption capacity. Therefore, we try to elaborate more on this aspect of the EU funds effectiveness.

4.1. Absorption Capacity in focus

The "absorption capacity" was previously defined as the ability of a state to make use of the financial resources in Structural Funds and the Cohesion fund. Nevertheless, Emerson et al. (2006, p.1) criticize this term as being vague and ill-defined, despite using in the official texts. They suggests de-composing this term into more specific, individual aspects such as the capacity of the EU's finances to absorb new members or the capacity of the EU labor market etc.

Indeed, the absorption capacity is measured in various studies miscellaneously. Marzinotto (2011) uses the percentage of the allocated amounts, Macháčková (2010) deals with the number of the submitted applications, approved and rejected projects and their values. Bocean (2011) uses the rates of payments and contracting of the European funds. In the Czech Representation of the European Commission they employ GDP as the reference variable (EK 2011). This thesis tries to measure the absorption capacity in terms of the rate and possible determinants of the cancelled projects on the demand side as will be shown later.

The major problems of absorption capacity have already been outlined. It is remarkable that not only the states of the Central and Eastern Europe struggle, but also, for example, Denmark, Italy, Luxembourg and the Netherlands. To say that poor absorption capacity is a result of the current economic crisis, is short-sighted. On the other hand, comparing the first three years of the previous and current (2007-2013) financial perspective, there is approximately a one year delay in the absorption caused by the modification of the n+2 rule and difficulties of beneficiaries to co-finance projects by 20% (Marzinotto, 2011, p.3-5).

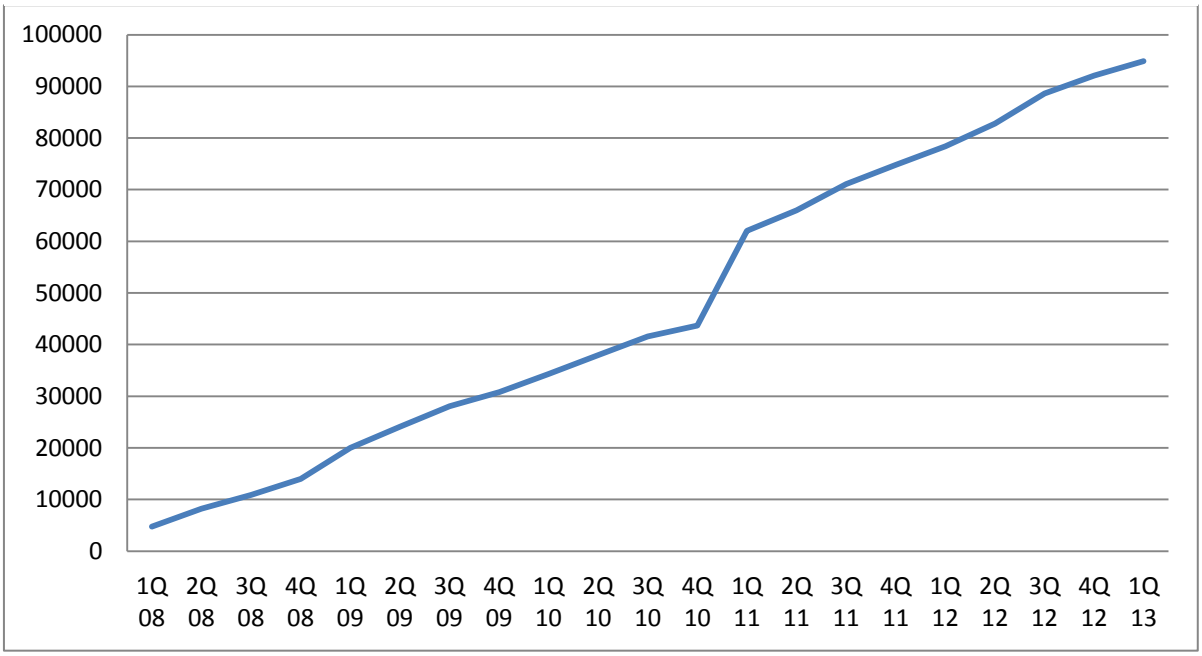
4.2. Absorption Capacity of the Czech Republic

Macháčková (2010, p.52) concluded that the general absorption capacity of the Czech Republic was insufficient, although the number of submitted applications exceeded the preset limit many times, and supposing the crux of the matter is in the quality of applications themselves, or in the length of the approval process. She also compared the Czech administrative capacity with the Slovakia, Hungary and Slovenia and found that Czech was comparable to Hungary, ranking 2nd of the four countires.

Her conclusion cannot, however, be extended to the current situation in 2013, since her research was based upon the data from 2008 and 2009 when the whole process was still at the beginning. At the end of 2009, only 8.5% of the money available was disbursed to beneficiaries. The whole process of payments accelerated in 2010, whose end was marked by 26% of the total allocation being disbursed (MMR - 12/2009, 12/2010).

In the following section, the quarterly data covers the years 2008 to the first quarter of 2013. However, as the data is cumulative, it includes the figures from 2007 as well. Figure 2 depicts the number of submitted applications in the Czech Republic based on the Monthly Monitoring Reports released by the Ministry of Regional Development since the beginning of the programming period in 2007. As can be seen, it rises almost

Figure 2: Number of submitted applications for assistance



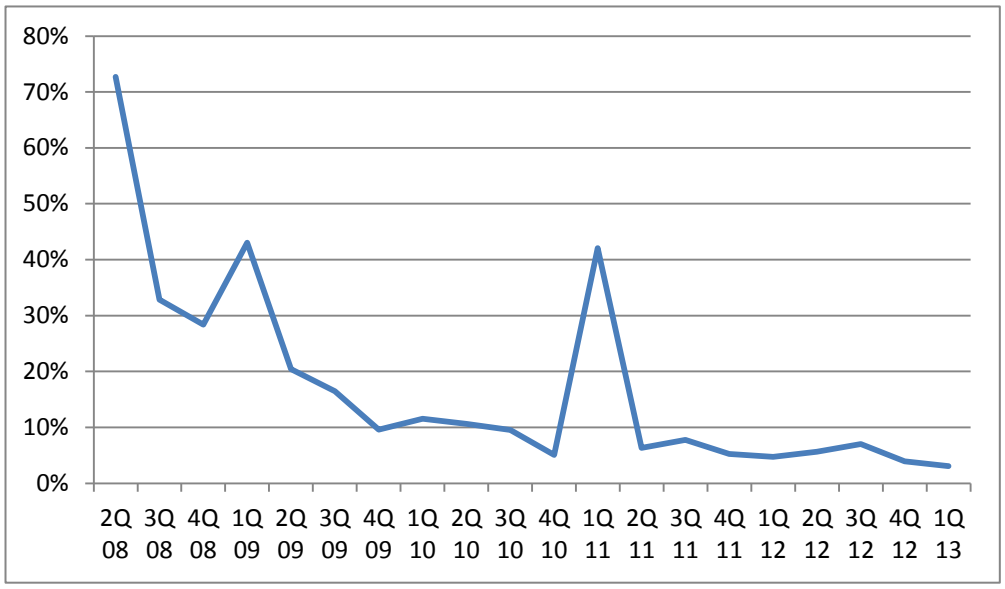
Source: author's computations

linearly, except for a sharper increase in the first quarter of 2011. This may be caused by a slight economic revival in the second half of 2010, which brought hope but ceased to matter as the GDP fell subsequently (MMR 2012a). The ever growing trend shows that EU funding has still been appealing (MMR 2012b). The average net quarter-on-quarter (q-o-q) change (%Δ) of submitted applications has been 17%. (own calculation: $\frac{1}{k}\sum_{k=1}^{n}\frac{N_k - N_{k-1}}{N_{k-1}}$, where *N* is a number of applications, *k* denotes a quarter, *n* is a number of quarters).

The Figure 3 shows the net q-o-q change of submitted applications. We can see that in the years 2008 and 2009 the numbers of submitted applications surged in tens of percent and then q-o-q changes slowly declined. Firstly, the decline can be ascribed to the ongoing economic recession and negative expectations, which were reversed by the moderate economic growth in the first quarter. As the end of the programming period gets closer, the potential of the funds is more and more exhausted and the needs of the applicants appear to be saturated as the percentage value of submitted applications later

shows. Interestingly, in the first quarter of 2011 the percentage change of submitted applications rose, most likely due to the moderate economic growth and positive expectations in 2010.

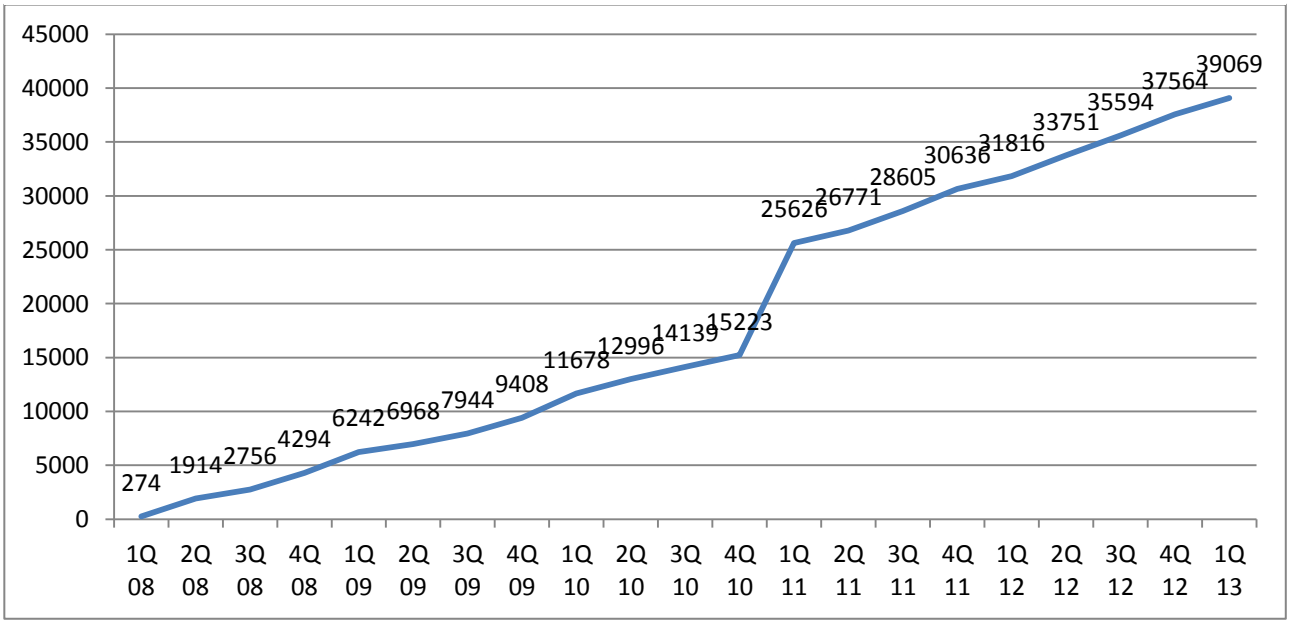
Figure 3: q-o-q change of submitted applications



Source: author's computations

The following picture (Figure 4) shows the cumulative number of the rejected project applications – either for not satisfying the conditions of the call or withdrawing by an applicant himself. Again, an apparent increase of the first quarter of 2011 might comply with the growing number of projects in that season. The average net q-o-q change (%Δ) of rejected proposals is 48% in the Czech Republic, accounting for the first quarter of 2008 that showed the 599% change. Omitting this figure, we get the 19%

Figure 4: Number of rejected applications for assistance

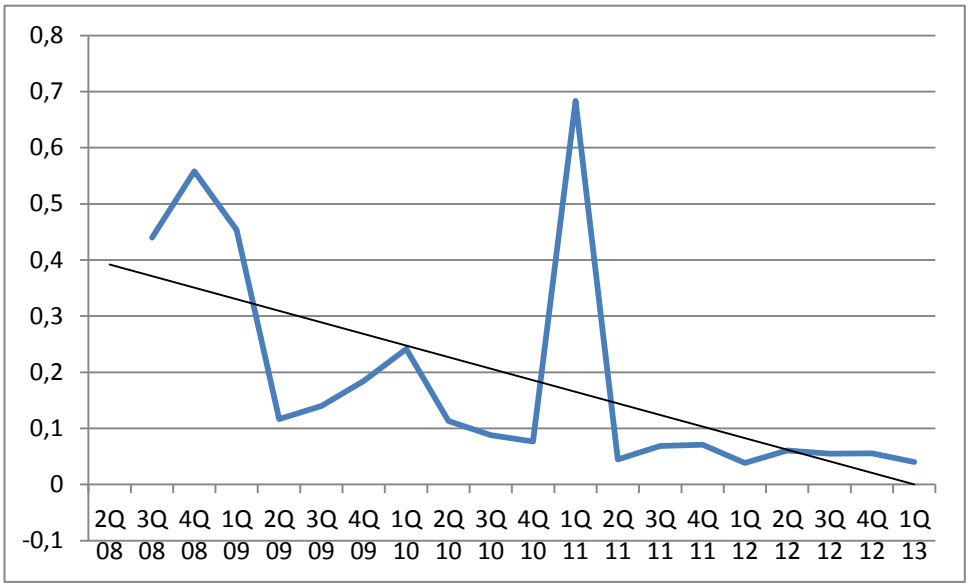


Source: author's computations

change.

The q-o-q change in the Figure 5 is more relevant, since we can observe the trend. The change of 599% in the first quarter of 2008 was omitted due to better visualization.

Figure 5: q-o-q change of rejected applications

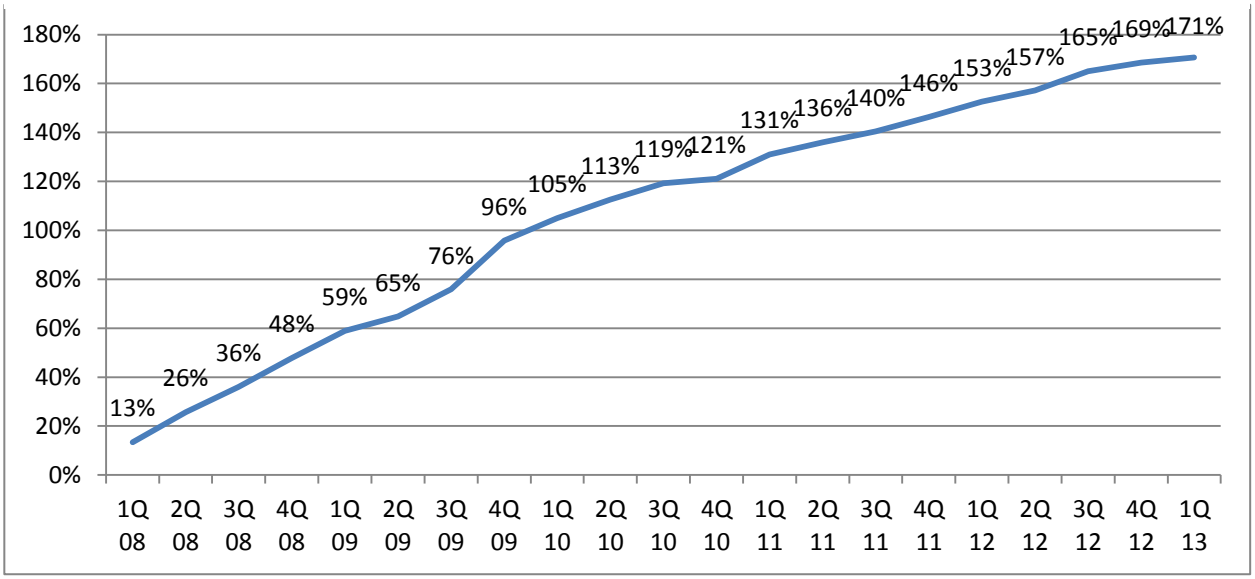


Source: author's computations

We can observe the decreasing trend in the net changes of the rejected applications. This reflects the fact that the vast majority of the applications have already been submitted, the curve is more or less similar to the q-o-q change of submitted applications.

The next graph in the Figure 6 is noteworthy, since it depicts the value of the submitted applications over the total allocation. It is visible, that at the turn of the year 2010 the overall value exceeded the total allocation, reaching up to the current 171% -

Figure 6: Percentage value of the submitted applications (out of total allocation)

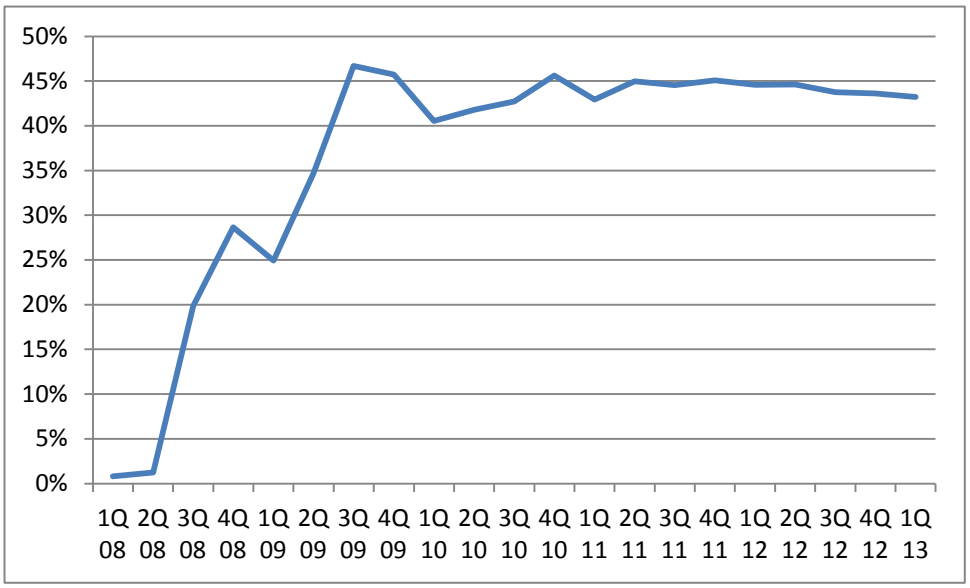


Source: author's computations

this fact should not remain unnoticed.

When the application meets all the conditions, it is recommended for co-financing. As the Figure 7 follows, you can see the ratio of the cumulative numbers of approved and submitted projects. The mean ratio is 37%, i.e. slightly more than one third of projects are approved. As you can see, the rate is slightly decreasing, which is a good sign. The reason is the progress in the overall implementation, as there is more than 85% of the allocated money earmarked for the individual projects and lower amounts of money are to be allocated, currently (MMR 2012b).

Figure 7: Approved to submitted cumulative ratio



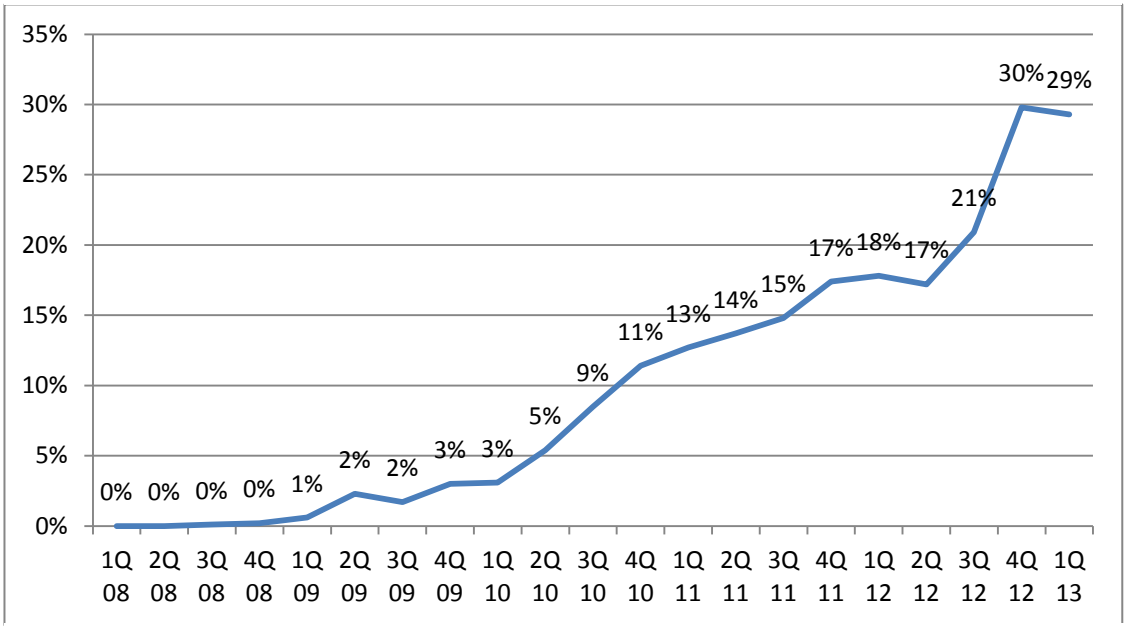
Source: author's computations

The payments are made as follows: Beneficiaries submit payment requests to the Managing Authorities that are fully responsible for their realization. All the payment claims must have all necessary documents attached to prove the expenditure was efficient and in accordance with the project documentation. The payments are either ex-post or ex-ante and are taken from the State Budget. These documents have to remain available after the projects are finished. Up to 5th June 2013, 432.1 billion Czech crowns have been paid to beneficiaries, i.e. 54.2% of the overall sum and 63.6% of the total sum of approved projects. (MMR 2013a).

Once the Managing Authorities disburse the payments, they bill summary requests to the Certifying Authority who then forwards those to the European Commission. The obtained money flows into the State Budget section that prefunds the projects. (MMR 2009b).

The next graph in the Figure 8 shows the percentage of certified payments out of the total allocation. We can see that they do not exceed the 30% border. The delay may be caused by the lengthy administration process and, what is more, in 2012, the certification process was suspended by the European Commission for the substantial shortcomings of the Managing and Controlling Authorities by the OPs funded by the ERDF. The Ministry of Regional Development immediately started to handle complaints resulting in the renewal of the certification process. The drop in the 2012 was caused by the withdrawal of some requests in the OP Prague – Competitiveness.

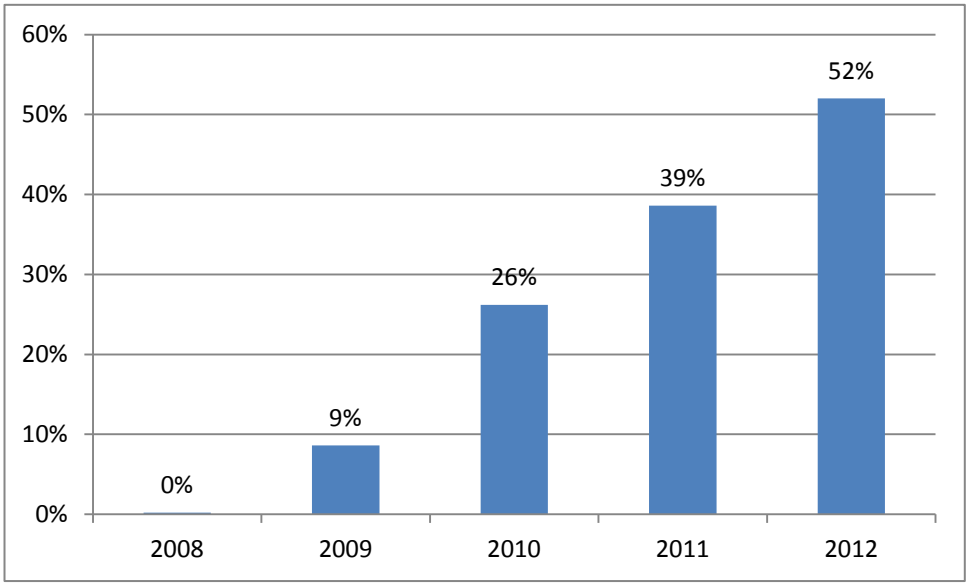
Figure 8: Percentage of certified payments



Source: author's computations

In the following graph plotted in the Figure 9, you can see the cumulative percentage of the paid assistance out of the total allocation at the end of the last five years. In each of the last three years nearly 100 billion Czech crowns were paid.

Figure 9: Percentage of the paid assistance



Source: author's computations

The greatest dynamics could be observed by the thematic OPs, namely the OP Research and Development for Innovation, the OP Environment and the OP Enterprise and Innovations.

As the analysis is focused on the cancelled projects, the numbers of cancelled projects and their values are attached.

Table 2: Number of cancelled projects

YEAR	CUMULATIVE NUMBER	TOTAL VALUE (BILL.CZK)
2010	500	3,6
2011	813	6,8
2012	1187	12,3

Source: MMR 2012b

As can be seen from the table, each year over 300 once approved projects are cancelled. (MMR 2012b) Up to 5th July 2013, there were 1516 cancelled projects of the 12.2 billion CZK value, i.e. approx. 2% of the total allocation. This means 320 in the first five months of 2013 (MMR 2013b). That is already 86% of the last year's number and by this rate the number would hit 768 at the end of 2013, which would be twice as much as in the previous years. The finances once earmarked for the projects that got cancelled go back to be used for other projects. (MMR 2012b).

4.3. Problems of the Czech absorption capacity

In this section a brief list of the current period's greatest obstacles in absorbing the financial assistance follows as they are great contributors to the problems with project cancellations as well as will be partly confirmed in the sixth chapter.

- **Bureaucratic burden is enormous**. Too many administrators deal with time-consuming processes. This results in a failure to meet the deadlines and insufficient human capacities. On the demand side, too many attachments and project documtations force the applicants to hire specialized firms to do that for them.
- **Administrative capacity is also miserable**. Despite all the effort made to sustain stable, highly-skilled and experienced teams of administrators, the sacking of the state employees and their salary reductions due to the cost-saving measures lead to the reduced replaceability and habitual failures in meeting the deadlines.
- The European Commission heavily criticizes the Czech **SF monitoring system** that cannot be currently used to its purpose. The software enables to insert nonsense data about the financial background of the projects and releases misinterpreted output. The corrections made by experts are costly. The competitive tendering for this monitoring system is also criticized by the EC.
- **Insufficient publicity and communication** also stand out. Different entities give inconsistent answers that are often in contrary to each other. Sometimes they are given so late that they are no longer relevant.
- **Frauds and corruption** are under Police investigation by many projects, of which many end up by the Court. Nonstandard competitive tenderings, nontransparent project evaluations, bribery and frauds like public contracts won by firms linked to the political parties undermine the credibility of the whole system.
- **Suspension of certification** is, as mentioned previously, a consequence of inconsistencies of miscellaneous origin. So far, the suspension occurred several times.

(Zimmermannová & Brown, 2012, p. 12-15)

Taking into account that the value of the submitted projects exceeds the current allocation by 73%, the fact that 85% of the allocation is listed in approved applications and that 54% of the allocation is already disbursed evokes the feeling that the overall absorption capacity is not such an issue. The above listed obstacles make an opposite

impression. In my opinion, the theme "absorption capacity" and effects of the EU regional policy is very comprehensive and many-sided to jump to a one-sided conclusion.

4.4. Operational Program Enterprise and Innovations

For the examination of the absorption capacity the data on the OPEI will be further used. The OPEI is certainly abundant in many positive features, however, there are a few weaknesses that were documented. The attention will be paid to the one that is only marginally described – the matter of cancelled projects.

4.4.1. Comparison of various evaluations

The Bergman Group did an evaluation study of the absorption capacity of the OPEI in 2009, focusing on the data from 2008. It yielded ambiguous results The researchers measured the absorption capacity in terms of the sufficiency of projects being able to draw all allocated money, and according to the quality of the projects – whether they met all program objectives and fulfilled the indicators. They aimed to count an existing rate of funds utilization and estimate its future rate. They found that out of 15 subprograms, only 5 would be fully drawn out and they made an rough estimate that by the end of the current financial perspective, 96% of allocation would be drawn, given that reallocations between subprograms were made. The existing rate of utilized funds would secure only 71% of the total allocation and two of six priority axes would be used by the end. However, their implications were to a large extent, biased, since the OPEI was passed by the European Commission passed the OPEI on the 3rd December 2007. This left the declaration of some of the subprograms to 2008. In that year the whole process was gaining momentum. The acceleration of the applications for assistance came in the first half of 2009, when their main analysis was performed.

As for the weaknesses, besides other things, they dealt with the personal experiences of potential beneficiaries. They know where to ask for information, but are content neither with the quality of answers (sometimes even inconsistent), nor with accessibility of specialized information needed for the effective preparation. Again, an immense complexity and costly administration of the projects were highlighted. Further, the necessity to co-finance the whole project realization and subsequently obtain the assistance seems precarious for many. Complaints were made about the failures in

meeting the deadlines. It happens that the crucial decision is being delivered at the time when it is no more relevant (Bergman Group, 2009)

Another OPEI evaluation was made in 2012 with respect to the years 2007 – 2011. The results seem to be overwhelmingly positive. The reallocations suggested in the previous study were made. The rate of funds drawing should guarantee the total utilization of the allocated money ceteris paribus. Comparing the OPEI to the other "big" OPs, it achieved above-average values. Also the indicators[8] were progressively fulfilled in 2010 and 2011 and should be fully met by the end of the programming period. Of all the OPs, the OPEI contributes to job creation the most, especially in the regions lagging behind. The process of OPEI implementation shows a high absorption capacity of the applicants who are able to prepare and realize viable projects meeting the OP targets and significantly exceeding the OPEI allocation. Such a conclusion is more resolute, compared to the previous study. They also stated that a larger problem with project sustainability had not yet been identified. To sum up, the strategy and development objectives are set well, due to a high absorption capacity the total allocation is very likely to be fully drawn out and the system of management and monitoring works well, flexibly reflecting the changes and needs on both the demand and supply sides. No substantial shortcomings were identified. (EUFC CZ, 2012).

In the report of Development of NSRF implementation done in January 2013, the OPEI is also praised. Despite the suspended certification in 2012, the OPEI was third in terms of paid sum by the EC. It met the drawing limit without using the interim payments, it created the most job vacancies (3,143), which is an 11.9% increase, compared to 2011.

The Monthly Monitoring Report of May 2013 confirms the last results. It states that OPEI has the third largest share on the total allocation for the Czech Republic and makes the important contribution to the job creation and the "Competitive Czech Republic" objective. However, the certification has been suspended by the EC since January 2013, due to exceeding the 2% error rate. This happened also in 2011 for seven months and in 2012 for more than one month.

[8] Indicators serve for the monitoring of the project realization and respective results. They are of great importance when evaluating the project, their values are put into monitoring reports. In an extreme case, the indicators violation may cause a partial or total money forfeiture. (MMR 2009c)

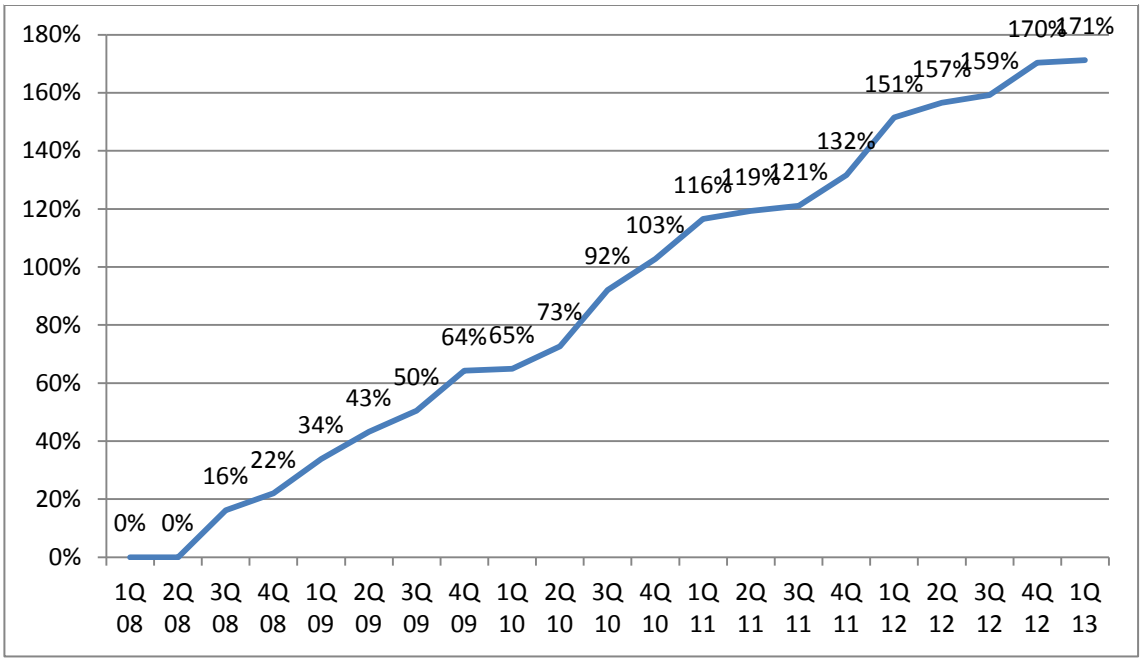
4.4.2. Analysis of the OPEI applications numbers

4.4.2.1. General figures

The following figures were taken from the Monthly Monitoring Reports released by the Ministry of Regional Development at the end of each quarter of respective years. Based on these figures, the graphs were plotted. Up to 5th June 2013, 16,404 OPEI applications were submitted, whose value amounts to 170.3 billion crowns, which is 181.7% of the program allocation. Its Managing Authority – the Ministry of Industry and Trade approved 9,355 project applications, with a value of 87.7 billion crowns, which is 93.6% of the total OPEI allocation. Beneficiaries already obtained altogether 45.8 billion crowns, i.e. 48.9% of submitted applications. The volume of the certified money is 29.6 billion crowns, i.e. 31.6% of the OPEI allocation.

The graphs in the following figures are plotted of quarterly data beginning in 2008, older relevant data is not available. For the quarter on quarter changes this formula was used: $\frac{1}{k}\sum_{k=1}^{n}\frac{N_k - N_{k-1}}{N_{k-1}}$. The Figure 10 shows the proportionate cumulative value of all the submitted OPEI applications in relation to the total program allocation.

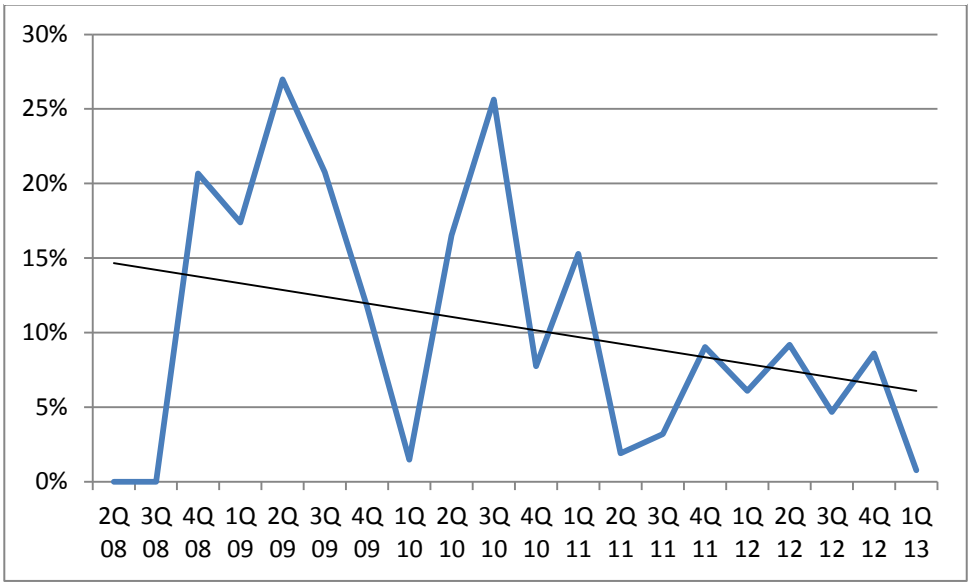
Figure 10: % value of the submitted OPEI applications



Source: author's computations

As can be seen, 100% was hit in the fourth quarter of 2010. The Figure 11 depicts the percentage change of the submitted applications. The mean q-o-q increase of number of submitted applications is approx. 750. The average q-o-q change (increase) is 10%.

Figure 11: % change of submitted applications

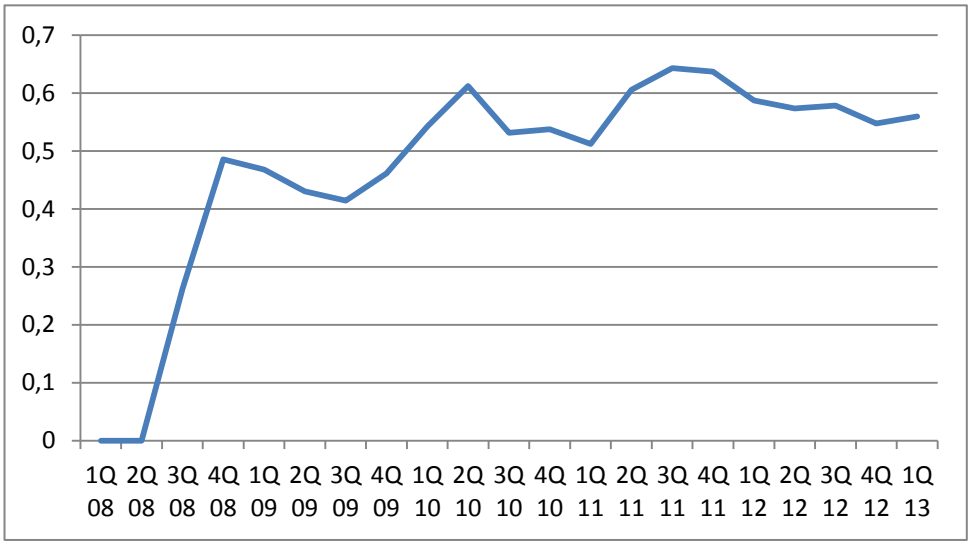


Source: author's computations

Fortunately, we can see that the rate has been declining in the last three years, because, as said above, the OPEI potential is almost used up. The rapid increase was during 2009 and 2010. The rapid decrease in the first quarter of 2010 might be ascribed to the fear of financial recession.

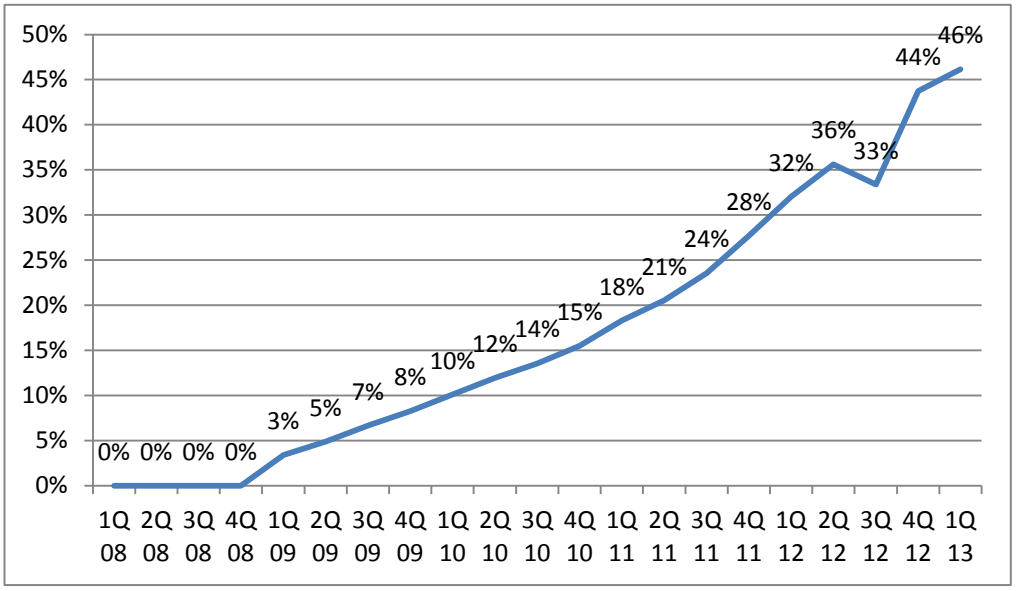
The Figure 12 shows the proportion of the cumulative number of approved and submitted applications followed by the cumulative proportion of paid and submitted in the Figure 13. The similar implications may be applied to these. The average ratio of approved and submitted is 48% which is higher than the overall ratio by 11 perc. points.

Figure 12: Approved to submitted cumulative ratio



Source: author's computations

Figure 13: Percentage value of the paid assistance



Source: author's computations

4.4.2.2. Cancelled projects

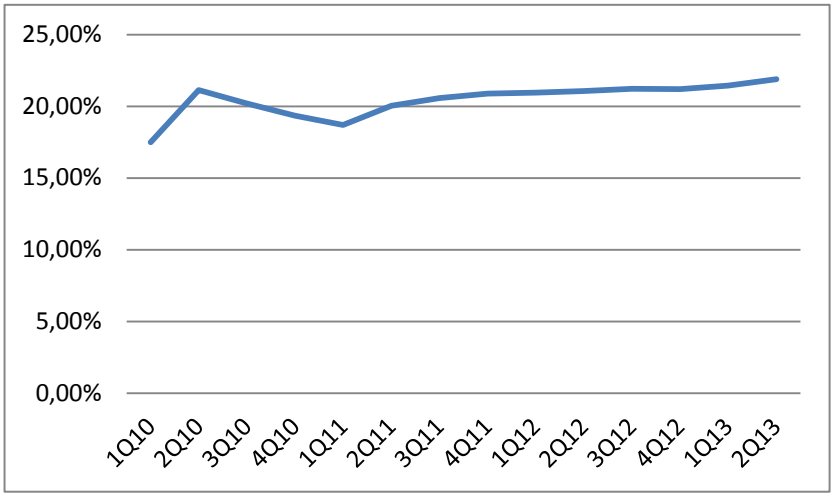
Very little attention was paid to the cancelled projects. If we consider a project cancellation as an indicator of the absorption capacity on the beneficiary side, we can come up with interesting findings and policy implications for future OPs.

The cancelled project is a project that was ended in a nonstandard way. It is a situation when a beneficiary, the Managing Authority or an Intermediate Body terminates the grant agreement. (MMR 2013c).

The following calculations and graphs are based on the data that is taken out of the Lists of Beneficiaries released monthly on the website dedicated to Structural Funds ran by the Ministry of Regional Development. Data is divided quarterly and covers the quarters of 2010 to the first half of 2013. The earlier relevant data was not available.

Up to 4th May 2013, there were 48,119 approved listed projects in the Czech Republic. Of those, 10,530 were under the OPEI, i.e. 21.9%. The graph in the Figure 14 depicts the cumulative proportion of the OPPI projects to all approved projects.

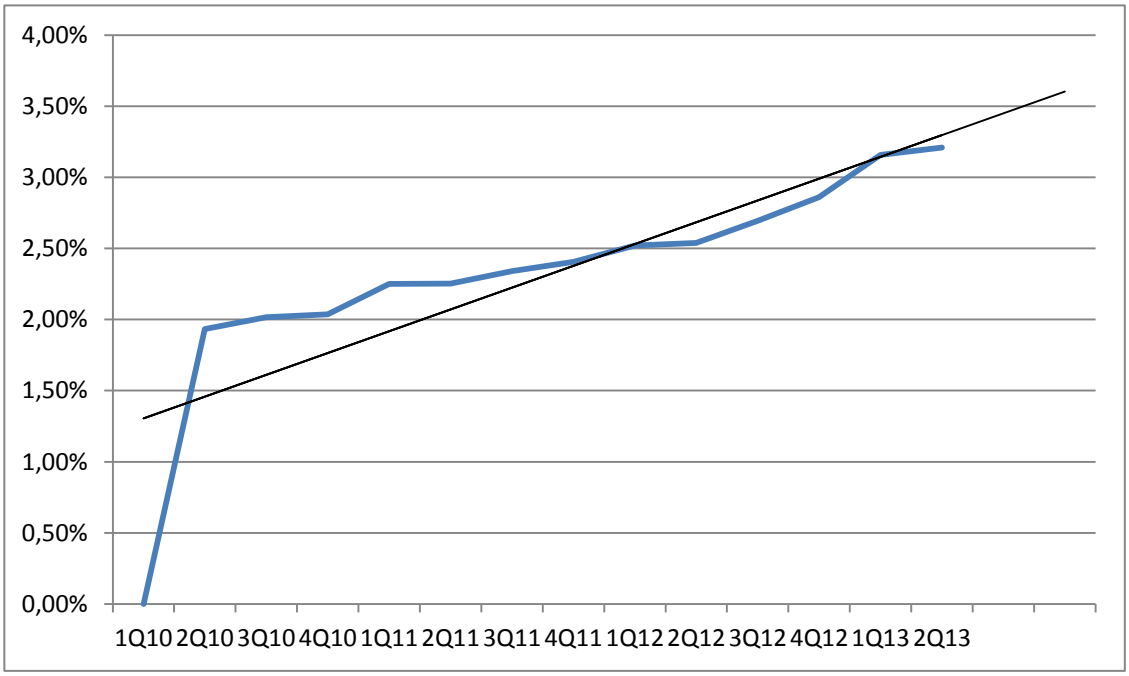
Figure 14: OPEI to all submitted application



Source: author's computations

On average, one fifth of all projects are under the OPEI. In total, there are 1,544 cancelled projects, which is only about 3.21% of all projects. The following graph shows (Fig. 15) the percentage of the cumulative number of cancelled projects to the cumulative number of all projects.

Figure 15: Percentage of cancelled projects out of all submitted

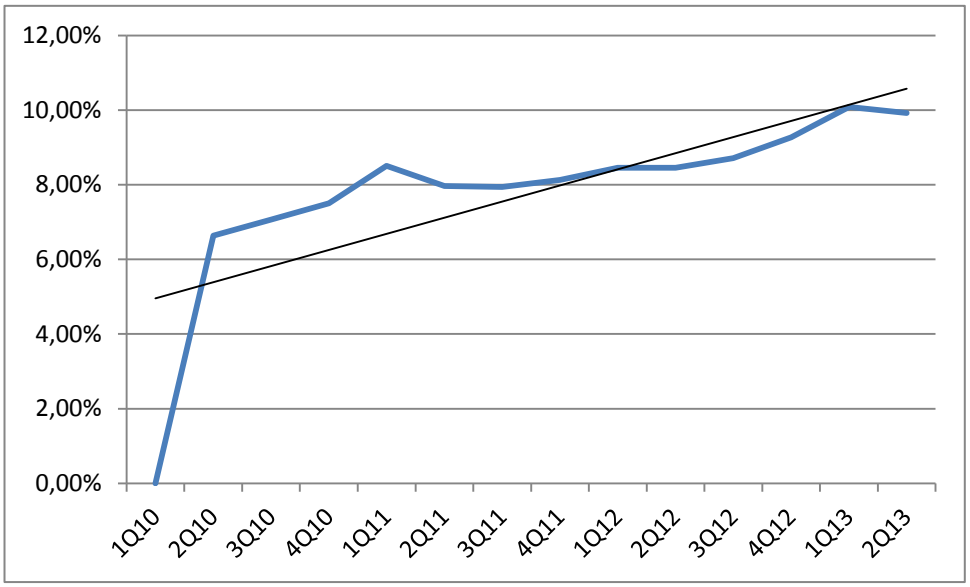


Source: author's computations

It is clear that the trend is slowly increasing, rather than being constant over time. Unlike the approved to submitted ratio (both in general and OPEI) that appears to be rather constant, at least in the last couple of quarters. Interestingly enough, out of these 1,544 cancelled projects, 1,045 are under the OPEI, which is 68% of all cancelled projects and 10% of OPEI cancelled projects. The average net quarter on quarter change

is 12% (counted as $\frac{Q_k - Q_{k-1}}{Q_{k-1}}$). The graph in the Figure 16 shows the percentage of OPEI cancelled projects, out of all cancelled projects.

Figure 16: Percentage of OPEI cancelled projects out of all submitted



Source: author's computations

Again, it is clear that the trend is slowly increasing, and more than half of the data (57%) vary within the 8 to 10% range. The average q-o-q increase is 12%, the same as on a national level.

These findings are astounding, when we realize that this OPEI is one of the top-rated OPs (at least in terms of efficiency and absorption capacity). Taking into consideration that the average ratio of cancelled projects in this programming period is approx. 2.3%, the average number of OPEI cancelled projects – 7.76% is highly above-average. Currently, there is 9.92% OPEI projects out of all cancelled ones. Moreover, in the Central Bohemian region, 14% of all OPEI projects ended up being cancelled.

5. Empirical analysis

5.1. Motivation

The main aim of this part is to describe the determinants influencing the probability of a project cancellation and thus contribute to the existing OPEI absorption capacity evaluations. The main driver for this study is, as noted previously, the high rate of cancelled projects (10% in June 2013) within the Operational Program Enterprise and Innovations. The rationale for that was found nowhere, hence, this thesis attempts to find some possible determinants, bearing in mind that the explanation of this

phenomenon is solely by an adoption of econometric models being only part of the problem complexity. There are certainly lots of determinants on a personal level that are generally indescribable. A glimpse into these features follows in the subsequent section.

5.2. Data description

The research is restricted to the Central Bohemia NUTS II Region. The main reason for that is the data availability. Besides, it has the highest population, the highest number of trading companies, the lowest unemployment among NUTS III regions eligible for the structural assistance etc. (ČSÚ 2013). In this case, the Central Bohemia NUTS II region equals Central Bohemia NUTS III region.

There were three sources used, when obtaining data. The data about cancelled projects was obtained from the List of Beneficiaries generated on 3rd March 2013, downloadable from the official website of Structural Funds, ran by the Ministry of Regional Development. The data about finalized projects was obtained from the Statistics on OPEI funds drawing provided by the CzechInvest agency. The remaining data was downloaded from the Czech Statistical Office (CSO). The data from these three sources were pooled together, thus creating a dataset.

5.2.1. Variables

Since this study attempts to find what influences the cancellation of the approved projects, the explained dummy variable takes on only two values; one if the project is cancelled and zero when finalized. Therefore, two probability models will be employed: The Linear Probability Model (LPM) and the Probit. Their results will be compared, where possible. The number of observations is 547.

- **cancelled** – is our explained variable, or better, response probability. It is a binary quantitative variable equal to unity if a project was cancelled and zero if a project was finalized. In our dataset, we have 76 cancelled projects out of 547 observations, which is approximately 14%.

It is interesting to compare the average allocated sum of both cancelled and finalized projects. The average allocated sum for cancelled projects is 5.7 million crowns, whereas finalized have 7.2 million crowns. The difference is not substantial, but we can already see that larger projects are slightly less prone to be cancelled. Note that the maximum allocated sum for cancelled projects in our dataset is about 53 million crowns, while finalized have 149 million crowns maximally.

- **paid** – denotes the sum of money that was paid to the beneficiary. Considering the previous idea, larger paid sums may reduce the probability of a project cancellation, because large sums matter more, so the beneficiaries might be more cautious when dealing with them.
- **age** – is the number of years since the establishment of a firm, referring to the year 2013. Except for two firms that are 27 and 37 years old, respectively, all the other firms are 23 or younger, which is straightforward (during the Communism no private firms were allowed). One would suggest that older firms have a greater capital (both human and financial), more experienced management and greater stability. Last, but not least, they survived the crisis. So, a guess can be made that the older the firm, the lower the probability of cancellation.
- **industry** – is a dummy variable equal to one if the main firm's activity is in industry or in the primary sector, and zero if a firm operates in services (of various kinds). Well-educated people are more likely to run a business in services and might tackle the problems with finances rather than less educated people, who are more likely to manage rather industry-oriented companies. It is clear, however, that as the society develops over time, the shifts from industry to services are remarkable. Even if the estimated coefficient turns out to be positive, it is essential to interpret it carefully.
- **avg_emp** – is a qualitative variable denoting the average number of employees per firm. The figures are not accurate, but are approximated, because the CSO provides data only in intervals, so the mean value of each interval was used instead. Where the interval was not available, the mean value of the most frequent interval was substituted. Here an implication could be made that the bigger the number of employees, the lower the probability of a project cancellation, for companies with a large staff require more powerful management. On the other hand, managers of smaller companies, or better – entrepreneurs might be more risk-averse. It would mean that before they embark on this undertaking, they think it out very thoroughly and during realization they might take things much more seriously, leading to accomplishing projects properly.
- **y2008** – dummy variable that denotes the year of allocation. This year was chosen because it is a year when the economic crisis broke out. Other years were

dropped due to multicollinearity. If the coefficient turns out to be positive and significant, an implication can be made that projects from 2008 have a greater propensity to be cancelled.

- **fyzos** – is a dummy that denotes if a subject applying for a structural funding is a natural person.

5.2.2. Model quantification

So, our model will look like this:

$$cancelled = \beta_0 + \beta_1 paid + \beta_2 age + \beta_3 industry + \beta_4 avg\_emp + \beta_5 y2008 + \beta_6 fyzos + u$$

All computations were made in Stata 11.

5.2.3. Correlation

To test multicollinearity, we let the correlation matrix generate, as follows:

Table 3: Correlation matrix

	cancelled	paid	age	industry	avg_emp	y2008	fyzos
fyzos	0.0736	-0.0647	0.2039	0.0882	-0.0391	0.0404	1.0000
y2008	0.1890	-0.1479	0.0492	0.1195	-0.0329	1.0000	
avg_emp	-0.0100	0.2307	0.1049	0.0602	1.0000		
industry	0.0686	0.0330	0.0736	1.0000			
age	-0.0493	-0.0550	1.0000				
paid	-0.2119	1.0000					
cancelled	1.0000						

Source: author's computations

As can be seen, none of the correlations exceeds 25%, the highest one is between **avg_emp** and **paid**: 23.07%, which is satisfactorily low.

5.3. Linear Probability Model

At first, we will use the Linear Probability Model (LPM) for our analysis. Before we move on to model results, we will make a theoretical framework.

5.3.1. Theoretical underpinnings

The Linear Probability Model (LPM) is a linear regression model with a dummy explained variable:

$$y = \beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k + u$$

It means that *y* can take on only two values: 0 or 1. Under the zero conditional mean assumption $E(u|x_1, x_2, \dots, x_k) = 0$, the expected value of y given x *E(y|x)* may be viewed as the conditional probability of success given x: $E(y|\boldsymbol{x})=P(y=1|\boldsymbol{x})=p(x)$. (Gujarati, 2004, p.582). Success means the situation when y=1: event occurs. Since

$$E(y|\boldsymbol{x}) = \beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k,$$

then the LPM model looks like this:

$$P(y = 1|\boldsymbol{x}) = \beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k$$

$P(y=1|\boldsymbol{x})$ is also called the "response probability", i.e. the probability, that success: y=1 appears. Logically, the sum of probabilities must equal to unity, so: $P(y = 0|\boldsymbol{x}) = 1 - P(y = 1|\boldsymbol{x}) = 1 - p(x)$.

The coefficients β_j interpret the probability of success when x_j changes, ceteris paribus, using Ordinary Least Squares (OLS) estimators: $\Delta P(y = 1|\boldsymbol{x}) = \beta_j \Delta x_j$. In other words, the unit change of Δx_j causes the change in probability of success (y=1) by β_j (Wooldridge, 2009, p. 247).

Concerning goodness-of-fit measures, the standard *R*-squared is used, even though it is of restricted use. The reason is that the response probability does not fit into the <0,1> interval. Hence, the *R*-squareds in the LPM models tend to be far lower than one. (Gujarati, 2004, p.586).

However, there are some problems accompanying LPMs. Firstly, it is heteroskedasticity. The homoskedasticity assumption states that variance of *u* given *x* is constant. In LPM, the *u* takes on only two values and that implies to have Bernoulli distribution. Bernoulli binomial variance is always: $p(1-p) = p(x)(1-p(x))$ (Gujarati, 2004, p.582). It is clear that *Var(u|x)* is a function of *x*, so it cannot be always constant. However, a heteroskedasticity of disturbances does not make the OLS estimators biased (Wooldridge, 2009, p. 250). The heteroskedasticity can be corrected by dividing the LPM model by $\sqrt{w_i}$, where w_i are the weights and also a function that causes the variance to be nonconstant. Often we don't know the exact w_i, therefore we have to get LPM fitted values $\hat{y}_i$ and get predicted weights as $\widehat{w_i} = \hat{y}_i(1-\hat{y}_i)$. Thus we get weighted least squares estimators with homoskedastic error terms (Gujarati, 2004, p.588). Secondly, since *y* has the Bernoulli distribution, error terms must also have Bernouilli distribution and that violates the normality assumption. However, due to the

central limit theorem we can say that as the sample size rises indefinitely, the estimators converge to having the normal distribution. The problem of major concern is that fitted values $\hat{y}$ in the LPM may be negative or exceed 1 which goes against common sense. Negative fitted values can be substituted by 0 and those exceeding 1 by unity (Gujarati, 2004, p.586). Last, but not least, the marginal increases of the probability of success are linear given *x*, i.e. always the same for every unit increase of *x*, which is quite counterintuitive, since the probability may well change differently (nonlinearly) depending on the size of *x*.

5.3.2. Results and interpretation

Initially, the OLS regression was run in Stata, and tested first for heterskedasticity. The Breusch-Pagan test and White's test that have a constant variance as a null hypothesis were used. Their χ^2s are 77 and 106, respectively. Their p-values were 0 to four decimal places, so the null hypothesis was strongly rejected. Both tests yielded anticipated results and thus proved heteroskedasticity. Hence, the Robust Standard Errors were used to correct for heteroskedasticity. The table of WLS estimates follows.

Table 4: LPM results

cancelled	Coef.	Robust Std. Err.	t	P>|t|
paid	-0,00000000636	1.91e-09	-3.33	0.001
age	-0.0053034	0.0022897	-2.32	0.021
industry	0.0384764	0.0280518	1.37	0.171
avg_emp	0.0000399	0.000018	2.21	0.027
y2008	0.1253872	0.0403539	3.11	0.002
fyzos	0.0941938	0.0663165	1.42	0.156
_cons	0.1946318	0.0474099	4.11	0.000

Source: author's computations

The R-squared is pretty low (0.0854), but it is not a matter of great concern for us, since its meaning is only restricted. Moreover, Gujarati (2008, p. 586) claims that R-squared ranging between 0.2 and 0.6 is high for such models. From this perspective, our R-squared of 8.5% is still low, but not that low as with standard OLS regression. The F-test for joint significance proves there is at least one coefficient significant, since the null hypothesis that $\beta_1 = \cdots = \beta_6 = 0$ is rejected due to a low p-value: 0.0000 and F(6,540)=5.86. Namely, it is **paid**, **age**, **avg_emp** and **y2008** that are significant at a 95% significance level. It is notable that **paid** has a fairly high t-statistics and **y2008** as well, though slightly lower. From the coefficient by **paid**, we can say that as the amount

of the allocated sum increases by 1,000,000 Crowns, the probability of a project cancellation decreases by 0.636%. In the dataset, 73% of projects were of 10 million or higher values.

Concerning the other estimates, we can see that four variables have their t-statistics greater than 1.96, which means at a 95% significance level, that they are significant, as their p-values confirm. The result of the allocation in 2008 seems also appealing. According to this model, the projects approved in 2008 are by 12.5% less likely to be finalized, which is quite interesting and can be interpreted as the crisis effect. We can also see that as the age of a firm increases by one, the probability of a project cancellation decreases by 5.3% which complies with the suggestion that older firms are more likely to be led by more experienced people who make only deliberate steps. **Avg_emp** yielded a positive sign which means that one more employee increases the probability of a project cancellation by 0.00399%, with 100 or more employees, it is 0.39%, which is still not much at all. And the estimated effect is not constant which would be more appropriate in this case.

This model has many shortcomings, as noted above, therefore, these results and their interpretation have to be taken with a pinch of salt.

5.4. Probit Model

This part is an attempt to confirm our results by alternative methodology using a qualitative binary model. Bearing in mind the above mentioned drawbacks, the better models for the quantitative response variables models were made. Recall that the object of the interest is in explaining the conditional response probability, where $P(y = 1|\boldsymbol{x}) = P(y|x_1, x_2, \dots, x_k)$. $\boldsymbol{x}$ might stand for miscellaneous variables including the dummy variables. To avoid the negative and greater than one probabilities, we define a function *G*, whose values are always $0 < G < 1$. So,

$$P(y = 1|\boldsymbol{x}) = G(\beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k) = G(\beta_0 + \boldsymbol{x\beta}).$$

5.4.1. Probit Model – theoretical underpinnings

In the Logit case, *G* is the standard normal cumulative distribution function that is defined as:

$$G(z) = \Phi(z) = \int_{-\infty}^{x_0} \phi(x)dx,$$

where $\phi(z)$ is the standard normal density and $z = \beta_0 + \boldsymbol{x\beta}$ and

$$\phi(x) = \frac{1}{\sqrt{2\pi}} e^{\frac{-x^2}{2}}$$

As for the coefficients interpretation, because the function is nonlinear, the probit coefficients cannot be interpreted as usual. To obtain the effects of a change of an explanatory variable on the response probability, marginal effects have to be calculated. There are two ways of computing marginal effects: Marginal Effect at the Average (MEA) and Average Marginal Effect (AME). The problem of the former one occurs with substituting means of the dummy variable, which does not make sense. The latter one combats that problem by computing the marginal effects at first, and then averaging them. Therefore, it is more recommended. The AME of a variable *b* is computed as follows:

$$AME = P\big(y = 1\big|\bar{x}_{(b)}, b = 1\big) - P(y = 1|\bar{x}_{(b)}, b = 0),$$

where $\bar{x}_{(b)}$ expresses the averages of all the remaining variables in the model (Greene, 2003, p.668). The one unit change in a *b* variable increases the probability of y=1 by AME of a variable *b*.

5.4.2. Maximum Likelihood Estimation

The Probit model uses the method of Maximum Likelihood Estimation. Basic explanation follows.

Briefly, the density of y_i conditional on x_i with intercept included in the vector x_i can be calculated as $f(y|\boldsymbol{x_i\beta}) = [G(\boldsymbol{x_i\beta})]^y[1 - G(\boldsymbol{x_i\beta})]^{1-y}, y = 0{,}1$. Taking the log of the right-hand side, we get "log-likelihood function":

$$l_i(\boldsymbol{\beta}) = y_i log[G(\boldsymbol{x_i\beta})] + (1 - y_i) log[1 - G(\boldsymbol{x_i\beta})],$$

$l_i(\boldsymbol{\beta})$ is defined for all values of β. By summing all $l_i(\boldsymbol{\beta})$, we can get log-likelihood for *n* observations: $\mathcal{L}(\beta) = \sum_{i=1}^{n} l_i(\boldsymbol{\beta})$. We get $\hat{\beta}$ estimates by maximization of $\mathcal{L}$, i.e. making partial derivations and setting them equal to zero (Wooldridge, 2009, p. 579).

In the Probit model, there are at least two ways of measuring the goodness-of-fit: Pseudo R-squared and LR statistic. The conventionally computed *R*-squared cannot be

used, that is why McFadden proposed this kind of *pseudo R-squared*= $1 - \frac{\mathcal{L}_{ur}}{\mathcal{L}_0}$, where $\mathcal{L}_{ur}$ denotes the log-likelihood of the unrestricted model (including all regressors), whereas $\mathcal{L}_0$denotes the log-likelihood function, where only an intercept is included.

Regarding the latter one, the Likelihood Ratio statistic is defined as $LR = 2(\mathcal{L}_{ur} - \mathcal{L}_r)$, where $\mathcal{L}_{ur}$ is, as above, the log-likelihood of the unrestricted model and $\mathcal{L}_r$ is the log-likelihood of the restricted model. *LR* has an approximately chi-square (χ^2) distribution under the null hypothesis, for q exclusion restrictions (Wooldridge, 2009, p. 580-581).

5.4.3. Results and interpretation

Now that the theoretical background was outlined, coefficient estimates and marginal effects can be obtained.

The table of results of Probit follows:

Table 5: Probit results

	Coef.	Std. Err.	t	|P|>t
paid	-0.000000679554	0.000000100684	-6.7494	<0.00001
age	-0.032669	0.0158239	-2.0645	0.03897
industry	0.05275	0.185724	0.284	0.77639
avg_emp	0.00141489	0.000691382	2.0465	0.04071
y2008	0.307141	0.179465	1.71	0.087
fyzos	0.361712	0.304421	1.1882	0.23476
_const	-0.0917416	0.263735	-0.3479	0.72795

Source: author's computations

The McFadden's pseudo R-squared is 49%, which is pretty good. The likelihood ratio χ^2 is 161.998 and a p—value of 0.0000, so the model as a whole is significant. Expectedly, a strong significance is confirmed only by **paid**. The model produced two other significant variables on the 95% significance level: **age** and **avg_emp**, though rather on the verge of significance. **y2008** turned out to be significant between 90 and 95% significance level. As mentioned previously, to interpret the coefficients of Probit, we have to compute the Average Marginal Effects (AMEs) for each variable.

Table 6: Average marginal effects

	AME: dy/dx	Std. Err.	z	p-value
paid	-0.0000001040	0,0000000146	-7.12	0.000
age	-0.0050064	0.0023551	-2.13	0.034
industry	0.0080837	0.0284587	0.28	0.776
avg_emp	0.0002168	0.0001036	2.9	0.036
y2008	0.047068	0.0270424	1.74	0.082
fyzos	0.0554308	0.0461581	1.20	0.230

Source: author's computations

As expected, the significances of the marginal effects are the same as in Probit. As for the **paid**, the one-million increase makes the probability fall by 10.4%. An additional year for the **age** decreases the cancellation by 0.5 %. One more employee in **avg_emp** increases the response probability by 0.021%.

5.5. Comparison

Again, we have to be aware of the shortcomings and restrictions of the previous models. The LPM has the major deficiencies, as mentioned in the theory. However attractive its results are, we must take them only as a clue or guideline.

Both models showed the strong significance of the variable **paid**, which had a negative sign in both cases. This implies the bigger the paid allocation was, the lower the probability of the project cancellation. This is probably the most unquestionable result we got out of our models. Particularly, with one million increase, the LPM yielded the decrease of only 0.636%, whereas Probit yields for the same change the decrease by 10.4%. As it was suggested in the data description part, it is straightforward that projects with large sums are of much bigger interest to potential beneficiaries, therefore, the project managers may be more focused on the project finalization. Also the people with higher personal qualities such as experience and education are about to embark on large projects. The average paid sum is 5,922,322.5, the 63.5% of the paid sums are over the one million border and 17% over 10 million border.

LPM and Probit also showed that **age** is significant with a negative sign. Here the coefficients resemble the most. The additional year to age in the LPM decreases the probability of project cancellation by 0.53% and in the Probit by 0.5%. This complies with the suggestion that older firms are probably more considerate when starting a new project.

Avg_emp turned out to be significant with LPM and Probit, again. Their coefficients' signs in both models are positive, which means that firms with larger staff are more prone to end up with cancelled projects. An additional employee increases the response probability by 0.004% in the LPM, and by 0.02% in Probit.

y2008 proved to be significant at a 10% significance level in Probit and at 5% significance level in the LPM. Projects approved in 2008 are 12.5% more likely to be cancelled according to LPM and 4.7% more likely to be cancelled according to Probit. Thus, we can say that the crisis impacted the probability of projects cancellation significantly.

6. Summary of responses

In order to compare the preceding results with a qualitative analysis, I have also tried to conduct a survey. Out of about 60 asked Central-Bohemian firms whose projects were cancelled, only 9 (15%) responded to the question what the reasons were for cancellation of their projects. To make some generalized conclusions upon their statements is surely short-sighted, but it is interesting to highlight the main issues of these firms to get a basic idea and look more into their problems.

The reasons can be sorted into several categories. Two respondents paid for the total impossibility of a project change; one pointed to the change of the conditions between the project and its realization, the other objected to the fact that things at IT area are not rigid. This firm was unable to guarantee keeping the exact number of servers in their server farm.

Two gave it up due to high financial demands and time-consuming administration. One revised a business strategy and thus got under the required limit of expenditure. One respondent used an opportunity that the crisis offered and bought another building for a more favorable price. One was promised to get a loan from a bank in order to pre-finance the project, however, the bank did not provide the loan at the end, so the respondent failed to finance it all on his own. One paid a price for an insufficient study of the conditions of the funding provision. The mistake remained unnoticed by the officials in the project documentation and came to light when claiming the payments, however. Finally, one was in the process of finalization of two successful projects and lacked the capacity to finalize the third one.

One respondent expressed the opinion that the concept of EU funding is only a waste of money in a communist way, the other objected to the missing call focused on renewal of machines in firms.

Based on these experiences it seems that there are two major reasons for project cancellations: first, the length and complicated character of administration. Second, it is the failure due to the change of conditions during a project implementation resulting in an inability to finalize projects.

7. Conclusion

The EU Regional Policy is a popular theme, partly because it is a straightforward consequence of European integration, with tangible results. The current shape of the Regional Policy is a consequence of a long, semicentennial development described in the first section.

The primary focus of this thesis was to evaluate the absorption capacity as a whole and in terms of cancelled projects. The sample included data covering the Central-Bohemian region, focusing on the Operational Program Enterprise and Innovations.

Taking into account the ever increasing total number of submitted applications, the current value of requested assistance being 173%, the constant approved to submitted ratio and 54.2% of the paid assistance by the first quarter of 2013, a substantial failure of the structural help distribution cannot be observed. The question is what contribution have these finances made? Are they really having a multiplicative effect? Are they spent reasonably and effectively? Are they really able to play a key role in tackling the consequences of the current crisis?

These questions are beyond the scope of this thesis that dealt with the absorption capacity of the CR as a whole, but primarily pointed out and subsequently analyzed the phenomenon of cancelled projects The purpose of this study was to contribute to the existing studies and reports on absorption capacity of the OPEI and as a whole.

An increasing trend of cancelled projects has been found, both at a national and OPEI level. They share the same average quarter on quarter change of 12%, i.e. on average, at the end each quarter, the number of cancelled projects increases by 12%, compared to the previous one. Up to 4th July 2013, there was a total of 3.21% cancelled

projects, of which 9.92% were under the OPEI. The proportion of these cancelled OPEI projects is slowly increasing. These figures prove the amount of time and finances spent on both the supply and demand sides are not negligible. The costs associated with both the demand side (getting all the required information, finding the resources for co-financing, filling out an application, submitting an application, and various degrees of realization) and the supply side (the evaluation and the project selection) are considerable.

The econometric analysis tried to find the possible determinants that influence the probability of a project's cancellation. Bearing in mind their limited explanatory power and other unobserved determinants, it was found out that the amount of paid allocation is of real significance. The higher the amount of paid allocation is, the lower the probability of project cancellation. Other significant factors are the age of the firm (resulting in the lower cancellation probability for older firms) and the average number of employees (resulting in the lower cancellation probability for firms with larger staff), which is a bit surprising. The Linear Probability Model also revealed significant results (Probit on a 10% significance level) when the year 2008 was the year of allocation, which may imply that the crisis had an impact on projects cancellation. The projects approved in that year were 12.5% (or 4.5% by Probit) more likely to be cancelled. This is an interesting result, but since it was given by the less favored model, it therefore needs to be addressed carefully.

In light of these models the best odds for project finalization are for smaller (in terms of employees) and older enterprises that applied for large sums of EU assistance.

For further research using a larger dataset and including more explanatory variables is recommended. Quantifying the amount of administrational and time losses on both supply and demand sides of absorption capacity could also be interesting. Addressing the previously mentioned general problems with absorption capacity as well as reducing the number of Operational Programs would surely contribute to combating this problem. Some extra help to the beneficiaries applying for smaller amounts could also make a difference.

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