Is the EU Structural Fund Creating Economic Growth?

A Policy Analysis of the European Regional Development Fund - ERDF

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ABSTRACT

The European Union uses a considered amount of the member states´ resources in the structural and cohesion funds to equalise income differences in the union and to induce growth to get economic cohesion between regions. An interesting and disputed question is if the funds are used in an effective way and if they reach their goals of economic growth. This is studied in the paper by a literature review and a following policy analysis which compare EU cohesion policy and academic knowledge. This question is addressed by performing a literature review of 16 articles about economic growth and its determinants in the European Union, and by comparing results from these studies with priorities of the main structural and cohesion fund’s policy, the investment priorities of European Regional Development Fund (ERDF). The paper concludes that seven out of 11 investment priorities correspond or fairly well correspond, to results from academic research of European growth. The study highlights the importance of the 11th investment priority, which is regional governments´ quality and its impact on the structural and cohesion funds´ growth efficiency. The paper also concludes that a well-adopted policy change would be to increase the status and importance of the 11th investment priority of the ERDF and the overall EU cohesion policy.

Keywords: Structural and cohesion funds, EU regional growth policy, European economic growth, literature review, European regional development fund, policy analysis, growth efficiency, efficient allocation of EU funds, ERDF investment priorities.
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1. INTRODUCTION

After the Second World War and until the present time, Europe has experienced rapid socioeconomic growth. The European average life expectancy has, as for example, risen from 69 to 81 years of age in the time span of 1960 to 2017 (World Bank, 2019), and Europe, in comparison to the rest of the world, has 27 per cent of the total global wealth (Shorrocks, Davies & Lluberas, 2018). Yet, the European Union (EU) has some income inequalities. For example, 20 per cent of the population with the highest income earn more than five times as much compared to the bottom 20 per cent (Eurostat, 2018). Is it sustainable in a long-term social perspective, if the income gap is large and the living standards of people are substantially different? What is the optimal level of equalising income differences for the society to maximise the overall welfare and utility of all people? These questions are incredibly complex and the different aspects for the cause of income differences are often disputed. However, Barro and Sala-I-Martin (2004, p. 6) argued that understanding economic growth is vital to increase welfare to the population.

The EU is a collaboration in politics, economy, peace and prosperity and it has tried, for the last 60 years, to get states and regions to weave together to become a cohesive and united union. One of the European Union’s core objectives is to pursue economic, social and territorial cohesion between the member countries but also between regions within the union (European Parliament & the Council of the European Union’s directive 2008/12008/E174). A major part of reaching this objective is EU’s economic policy in using the common European structural and cohesion funds, which consists of three funds, European Regional Development Fund (ERDF), European Social Fund (ESF) and the Cohesion Fund. These funds aim to equalise differences in welfare and income levels between different parts of the union.

In the current financial framework of the funds, which extends during the period between 2014 and 2020, the ceiling for expenditures allocated for economic and social as well as territorial cohesion is approximately EUR 325 billion out of a total EUR 960 billion (The European Council & the Council of the European Union, 2019). This can be put in relation to the EU budget of 2018, which was approximately EUR 160 billion and the budget is mainly funded by the member states’ fees to the union. (European Parliament and the Council of the European Union’s legislative act 2018/251). With Great Britain in the process of leaving the EU, the debate of how to best use the common means of the union has risen. If the British leaves, there will be a financial gap in the EU budget and one suggestion is for the member states to provide with more funding.
An important aspect of all parts of the public sector and common means of the society, which is normally controlled by governments but in this case by the EU, is if resources are used where utility is maximised. Sala-i-Martin (1996) discussed the European structural and cohesion funds and if the money the European member states contributes with are used in the most efficient way, as for example, if convergence and economic growth will take place by itself in the dynamic of economics.

The recent academic literature about the EU structural and cohesion funds are contradicting. For example, Maynou et al (2016) analysed if the EU structural and cohesion funds helped countries and regions converge between 1990 and 2010. They concluded that the funds gave conditional convergence to the poorest recipient regions, resulting in lowered income inequality. However, the cohesion policy and the funds were criticised by Breidenbach, Mitze, and Schmidt (2016) for not delivering what the funds are meant to accomplish, to increase growth above the EU average, and produce cohesion to lagging areas of Europe. They concluded a negative relationship between the structural and cohesion funds and regional growth in the years of 1994 and 2007.

If the opportunity costs to investments are high, it would be better if means are invested elsewhere. Then there are strong economic arguments for resources to be used in other areas or different parts of the economy where the utility of the investments is higher. The know-how for politicians and world leaders to understand what affects and builds welfare in the most resource effective way is of great importance. Economic decisions taken today affects both present and future generations. Therefore, well-informed political and societal choices are crucial for the wellbeing of people today but also for populations to come.

1.1 Purpose and objectives

The purpose of this paper is to evaluate the basis for European Union measures to strengthen and contribute to economic growth and cohesion in Europe, and to test if these measures are supported by the results from academic literature on economic growth. The objectives are to do a literature review of economic growth and cohesion in Europe connected to the structural and cohesion funds and to assess whether the European growth and cohesion policy of the ERDF corresponds to the relevant academic knowledge. Are there any discrepancies compared to results of empirical academic research? Or are there conditionalities of what affects growth and cohesion that policymakers should take into account? Could changes in the policy be done to enhance the prospects of growth and cohesion?
In the study of European regional growth, quantitative research studies are the most common but there are fewer with qualitative analysis. The thesis’ main contribution is a qualitative analysis of European regional growth in comparison to the EU growth and cohesion policy to fill the knowledge gap of the subject. The contribution will be an evaluation of ERDF investment policy and if this policy has an anchoring in the literature of economic growth and cohesion. It will also try to contribute with an assessment, if the policy is implemented by the EU in the best of practices, to use scarce resources in an efficient way. The European Commission will review, in the second half of 2019, the programme for the structural and cohesion funds for the period of 2014 to 2020. They will evaluate if the member states’ allocations of the funds have reached their requirements and objectives up to the year 2018. (European Commission, 2015, p. 22) It is an ambition that this paper might give perspectives of relevant areas in the evaluation of ERDF’s impact on growth.

Limitations to this study are that the attention of the analysis will be, to the highest extent possible, of the economic aspects of ERDF policy for growth and cohesion. The thesis examines the EU’s possibility to affect growth and cohesion through that policy and that fund. The paper excludes other economic policies and other institutions’ contribution to growth such as the European investment funds and the European Investment Bank’s lending because of time and size limitations of the study.

1.2 The disposition of the paper

The second section (next section) of the thesis provides a historical background of the European Union. In the third section, a theoretical background on the theory of growth is presented, more specific the Solow-Swan model, convergence and a part of endogenous growth theory, as well as important previous work on growth and convergence, are summarised. In the fourth section, the method is described and how the data was retrieved. In the fifth section, the results are shown through a literature review and the main inducers of growth are summarised, and at the end of the fifth section, the investment policy of ERDF is presented. In the sixth section, a comparison of the results is made. In the seventh section, in the light of the findings and the comparison of results, a policy analysis and a discussion of the results are provided. The last section concludes the main results and discussion in relation to the thesis’ purpose and objectives.
2. A BRIEF HISTORY OF THE EUROPEAN UNION

In 1951 after the Second World War, six nations, France, West Germany, Italy, Belgium, Netherlands and Luxembourg started a coal and steel union to increase the collaboration between them to avoid another destructive war. The basic commodities coal and steel were the most important for the military industry and the establishment of a multinational and common control of the commodities’ production, would make a new war highly implausible. However, the new cooperation in production and trade would not only reduce the risk of war but also give positive economic effects. (Tallberg, 2016, p. 19-20)

The Treaty of Rome, established in 1957, was ratified by the member states and the collaboration was called the European Community (EC). The collaboration meant broader economic cooperation and the six countries decided to create a common economic market without customs along the borders. It would eventually enable goods, services, people and capital to flow freely between member states. The supranational institutions, that the members gave some of their sovereignty to, were the precursors to the EU institutions of today. Other European countries who were sceptical towards a more federal governing of the collaboration, created a free trade area called the European Free Trade Association (EFTA). The Treaty of Rome also stated that the EC would create a common policy for agriculture, transport and fishing industry as well as to establish a fund to counteract unemployment and a fund to help develop the member states’ less advanced territories outside Europe. (Tallberg, 2016, p. 22) These funds were the start of the structural and cohesion funds of today.

In 1973, the first expansion was made, and Great Britain, Denmark and Ireland united with the six founders. An important event for the European development was to institute public elections to the European Parliament in 1979. The European Parliament was at the time an advisory institution with limited statutory powers. However, the European Union of today, the European Parliament and the Council of the European Union are the two institutions to have legislative powers and it is divided equally between them. After Greece joined in 1981, and Spain and Portugal, which subsequently joined in 1986, there were 12 members of the EC. At this time the regional funds were significantly enlarged to help lagging regions with a lower degree of industrialisation. There was also a deeper collaboration between the nations in the areas of regional, social, environmental and industrial as well as market competition policy. A major change of the voting process in the council of the EC was the transition from a needed unanimity to a qualified majority in 1987. The former made the decision making sluggish and this act of streamline was called the European Single Act (ESA). The Maastricht treaty was
ratified in 1993 and it was the stage where an even deeper collaboration in the EC cooperation became a new organisation, the European Union (EU). The areas of association became broader and included intergovernmental policies, as for example security, migration, police and foreign policy. (Tallberg, 2016, p. 23-28)

In 1995 Finland, Sweden and Austria joined the European Union and, in 2004, 10 countries, including for example the Baltic states as well as central and eastern European countries, joined as well. Bulgaria and Romania entered the EU in 2007 and Croatia in 2013. In 2009, the former treaties were made into one, the Lisbon treaty which complemented all the existing ones. (Tallberg, 2016, p. 26-29) At the present there are 28 member states in the EU, however, in 2016 Great Britain voted to leave in a referendum and the exit negotiations are still ongoing.

The European Monetary Union (EMU) is the area where the common currency of Euro is used by some of the European Union member states. The EMU was launched in 1999 to further integrate the states´ economies with each other. The stability and growth pact, which originate from the treaty of Rome but revised in the treaty of Lisbon, proclaims that the EU member states have to maintain a government debt and deficit ceiling. The countries joining the EMU must also meet some criteria of convergence such as inflation and exchange rate stability for at least a two-year period to change their currency to Euro. (Tallberg, 2016, p. 31)
3. THEORY

3.1 Theoretical framework

A good starting point in the economic theory of growth is the neoclassical exogenous growth model by Solow-Swan, which was developed independently by two economists in 1956. The basic assumption in the Solow-Swan model is, in order to produce goods two input factors are needed, capital and labour. Capital is defined in the growth model as the aggregated capital stock in the economy, which is everything from tools to machinery. An important aspect of this input factor is that capital is a rival good, which can be described as if one is using a piece of machinery or equipment, someone else cannot use it simultaneously. This is one reason why capital also assumes to have diminishing marginal returns. In theory, for a given number of workers, resources and/or spaces, capital's marginal return will decrease as capital increases. Capital also depreciates, meaning it is not everlasting and the productiveness falls with time. To keep capital productive, maintenance, upgrades and replacements are required. In the growth model the depreciation rate is assumed to be constant. (Carlin & Soskice, 2006, p. 470-471)

In a closed economy, production equals income and income can either be spent on consumption today or be saved for future consumption. Capital is made from resources in the economy and an assumption is that resources are either consumed today or created into productive capital and will generate more resources in the future. Thus savings, the transformation of resources from one time period to another, are investments. (Carlin & Soskice, 2006, p. 470)

Technological improvements are exogenous in the Solow-Swan model but the technology level and how productive capital and/or labour are will be included through total factor productivity. Labour is the workforce in the economy, and it is also assumed to have the property of diminishing returns. Labour represents total employment and the population is used as an approximation of labour. (Carlin & Soskice, 2006, p. 471, 481) These assumptions compose the Solow-Swan model to the production function:

$$Y = AF(K, L)$$

where $Y$ is output meaning production, $A$ is total factor productivity, $K$ is capital and $L$ is labour. The Solow-Swan model also assumes the production function to be of constant returns to scale. This means that if you increase both inputs with a factor the output will increase with the same factor. Further, the production function assumes to be of Cobb-Douglas form:

$$Y = AK^\alpha L^{1-\alpha}$$
Carlin and Soskice (2006, p. 471, 483-484) state that if both sides are divided by \( L \) the production function in intensive form appears, in other words, output per labour and capital per labour.

\[
\frac{Y}{L} = y \quad \text{and} \quad \frac{K}{L} = k,
\]

hence:

\[
y = Ak^\alpha
\]

An assumption in the Solow-Swan model is, that growth of labour is exogenous and over time, the growth rate of labour \( (n) \) is constant positive and exponential. On the other hand, the change of capital over time is dependent on economic factors in the economy. (Carlin & Soskice 2006, p. 472) The model assumes a closed economy and the savings rate of the aggregated income is constant. Then, changes in the capital stock \( \frac{dK}{dT} \) will be the depreciation of capital subtracted from investments \( (I - \delta K) \). Carlin and Soskice (2006, p. 472-473) describe that with investments equal to savings the so-called equation of motion can be written as:

\[
\frac{dK}{dT} = sY - \delta K
\]

If the equation is divided by \( K \):

\[
gK = \frac{dK}{dT} = s \frac{Y}{K} - \delta = sAPK - \delta
\]

This implies that the growth rate of capital \( (gK) \) depends on the average product of capital \( (APK) \) and it is a declining function of the capital-labour ratio. (Carlin & Soskice, 2006, p. 473) If the assumption is changed so that the growth rate of labour is constant, the capital-labour ratio will only be constant when capital grows at the same rate as labour:

\[
gK = n
\]

With this condition, the previous equation can be substituted in to obtain the steady-state growth which implies that there is no output per capita growth, meaning both output and capital are growing in the same rate as labour:

\[
\frac{Y}{K} - \delta = n
\]
If the equation is rearranged to:

\[ s \frac{Y}{K} = (n + \delta) \]

It becomes clear that in steady state, savings are equal to the rate of depreciation and the growth rate of labour. Intuitively this is straightforward, for the per capita growth to be zero, savings have to sum up and be equal to the increase in population and the replacement of capital. When the equation is further rearranged it becomes the Harrod-Domar formula, where * indicates when in steady state. (Carlin & Soskice, 2006, p. 473)

\[ v^* = \frac{K^*}{Y^*} = \frac{k^*}{y^*} = \frac{s}{n + \delta} \]

**Figure 3.1.1** (Carlin & Soskice, 2006, p. 476)

\[ n, \text{ the growth rate of the population, is assumed to be constant and can therefore be represented by a horizontal line as seen in Figure 3.1.1 and } gK \text{ is downward sloping because APK is declining. The growth rate of output, } gY, \text{ has to be in between } n \text{ and } gK \text{ because it is an average of the two and exactly how } gK \text{ will be sloped depends on how much capital and labour respectively affect growth. (Carlin & Soskice, 2006, p. 476)} \]

The steady state growth can also be shown if the production function is substituted into the equation of motion:

\[ \frac{dK}{dt} = s( AK^\alpha L^{1-\alpha} ) - \delta K \]
if divided by K,

\[ \frac{dK}{dt} = sA \frac{K^\alpha L}{K^{\alpha + 1}} - \frac{\delta K}{K} = sAk^\alpha \frac{L}{K} - \delta \]

and because \( \frac{L}{K} = \frac{k^{-1}}{L^{-1}} = k^{-1} \), it can be rewritten to:

\[ \frac{dK}{dt} = sAk^{1-\alpha} - \delta \]

To change it to per capita terms:

\[ \frac{dk}{dt} = \frac{dK}{K} = \frac{dK}{dt} - n \]

\[ \frac{dk}{dt} = sAk^{1-\alpha} - \delta - n \]

and multiplying with k on both sides:

\[ \frac{dk}{dt} = sAk^\alpha - (\delta + n)k \]

In steady state the change in growth rates are zero and therefore \( \frac{dy}{dt} = \frac{dk}{dt} = n = 0 \)

\[ 0 = sAk^{\alpha} - (\delta + n)k^* \] gives \( sAk^\alpha = (\delta + n)k^* \).

**Figure 3.1.2** (Carlin & Soskice, 2006, p. 475)
As seen in Figure 3.1.2, the Solow-Swan model indicates that different saving rates ($sA^{k^\alpha}$) of an economy will lead to different steady-state equilibria.

To know which savings rate is the optimal one, welfare must be considered. In economics, the maximisation of welfare is usually to maximise utility, in this case, to maximise consumption which also is the golden rule of the Solow-Swan model. (Carlin & Soskice, 2006, p. 506) Production equals income and the part of income that is not saved is consumed.

$$c = Y - sY.$$ 

Output in steady state is $y^* = Ak^{*\alpha}$ while consumption in steady state is $c^* = Ak^{*\alpha} - sAk^{*\alpha}$ and because $sAk^{*\alpha}$ equals $(\delta + n)k^*$, the consumption equation in steady state can be written as:

$$c^* = Ak^{*\alpha} - (\delta + n)k^*$$

To maximise consumption the equation is differentiated with respect to capital:

$$\frac{dc^*}{dk^*} = \alpha Ak^{*\alpha-1} - (\delta + n) = 0$$

$$\alpha Ak^{*\alpha-1} = \text{marginal product of capital (MPK)} = \delta + n$$

To maximise consumption, the optimal savings rate is the steady state where the slope of APK (MPK) is the same as the slope of the depreciation and population growth $(\delta + n)$. (Carlin & Soskice, 2006, p. 506-507)

The government’s choice to set the golden rule savings rate where the economy maximises consumption in the long run could face opposition. If it requires to increase the savings rate it also implies that consumption today is lowered. The benefits of a higher savings rate might take a generation or two before taking effect of capital accumulation and higher consumption for the citizens of the economy. It therefore depends on the relative importance the government place on consumption today compared to future consumption. (Carlin & Soskice, 2006, p. 507-508)

### 3.2 Convergence

The definition of convergence is when differences in disparities are reducing. Barro and Sala-i-Martin (1991) described it as when welfare or development levels, generally measured in income, equalise between two or more countries over time.
The Solow-Swan model shows that a lower capital stock per capita will generate higher growth rates, meaning the further away from the steady state equals higher growth rates. Yet empirically, poorer countries with lower GDP per capita, which is assumed to be an approximation of the capital stock, have not shown subsequent higher growth compared to richer countries. This is referred to as unconditional or absolute convergence. An explanation to this is that the Solow-Swan model was introduced to study a single economy, but when it is used on cross country comparisons, the countries are assumed to have the same production function, same technology level and that they are converging towards the same steady state. (Carlin & Soskice, 2006, p. 490-492) However, economies with similar characteristics such as technology, savings rate, similar institutions in rule of law, social and cultural aspects have been showing tendencies of unconditional convergence. It would suggest that countries and economies converge to an individual equilibrium determined by the countries’ characteristics, but when they are similar the steady states equilibria will be closer together. (Carlin & Soskice, 2006, p. 494-495)

Conditional convergence is when countries grow faster because they are further away from their steady state compared to how far other countries are from theirs. If both rich and poor countries are getting close to their individual steady state, output per capita stops growing and in theory, poor countries would never be able to catch up. An important aspect in growth theory is therefore what determines the steady state and how it can be changed. (Carlin & Soskice, 2006, p. 495) This can explain why some countries experience ongoing growth and why other countries experience stagnation.

The critique against the Solow-Swan model is primarily the fact that technology is assumed to just happen and exist in the economy without costs. Barro and Sala-i-Martin (2004, p. 16) show that the assumption of a constant saving ratio contradicts the empirical findings of the matter, economies tend to save more as they develop. Other objections about the assumptions in the model are the instantaneous availability of technology for countries, and the model does not provide an explanation of what determines the rate of technological progress or the population growth. (Carlin & Soskice, 2006, p. 483-484)

### 3.3 Endogenous growth theory

Endogenous growth theory is when the growth of technology is taken into account in the model. Technological progress is closely related to human capital which best can be described as human knowledge. There are two general approaches to include human capital in the model. One, which treats human capital the same as physical capital, and a second, which enhances the
difference in the accumulation of the two and that human capital depends on both the returns of it and the time devoted to it. (Carlin & Soskice, 2006, p. 503)

An important characteristic of knowledge is partly nonrival. It indicates that two or more parts can use knowledge without affecting others’ consumption of it. This means that investments in human capital do not necessarily have diminishing marginal returns. Human capital has spill-over effects and positive externalities to the economy which lead to avoidance of diminishing returns on physical capital. (Barro & Sala-i-Martin, 2004, p. 213-214)

When human capital is included in the model, it fits better to the reality and the empirical findings of countries and societies. (Carlin & Soskice, 2006, p. 503) Education is commonly used as a proxy for human capital because the correlation between a more educated population and higher growth rates are well proven, however, causality is not. The probability of the reverse correlation could also be argued for, meaning wealthier countries spend more on education. (Carlin & Soskice, 2006, p. 502-503) Carlin and Soskice (2006, p. 503) also discuss other components of human capital such as the health of the workforce and quality of education, which in theory also should affect technological progress and hence the likelihood of higher growth. Though they stress the difficultness of how to empirically measure human capital.

Resources have to be allocated to enhance and develop incentives and possibilities for both the individual and the society to increase human capital, for example in education. Lucas (1988) made a model that showed that educational spill-overs and if individuals benefit from education, will increase the human capital level in the economy. The benefits of governmental subsidisation of education can therefore be argued of in a longer time perspective. However, Barro and Sala-i-Martin (2004, p. 556) showed that public spending on education had a weak correlation with growth. Nevertheless, it can be stated that different factors which improve and increase human capital and education are important aspects of growth.

In the endogenous growth model, it is recognised that research and development (R&D) has a significant impact on growth as well as the number of workers employed in the R&D sector. But for the R&D sector to promote growth, it must coincide with institutions and market conditions which secure property rights and the ability to seek patents in the economy. Companies and entrepreneurs will not invest in research, technology or improvement of goods if they are not able to, for at least a limited time, attain increased market power in order to earn money on their investments. (Barro & Sala-i-Martin, 2004, p. 16; Carlin & Soskice, 2006, p. 538-539) This shows that aspects of innovation and technological development are also important factors of growth.
3.4 Relevant previous work on economic growth

The literature of growth in the field of economics is wide and the subject is well studied. Robert Solow (1956) laid the foundation and the Solow-Swan model has been used repeatedly in the field of economic study to explain growth with capital, labour and the technology level but with technological improvements as exogenous to the model. Augmentations of the Solow-Swan model was made during the decades ahead, but it would take until the end of the 1980s when inter alia Romer (1986) and Lucas (1988) introduced endogenous growth models with human capital and spill-over knowledge in the economy. Baumol (1986) argued that heterogenous countries are experiencing divergence while only homogenous ones converge towards similar growth rates.

In Romer’s *Endogenous technological change* (1990) the R&D concept was brought forth and he, among others, recognised that technological improvements stem from the ability to acquire market power from R&D. Barro (1991) showed that education is an important factor for growth and Barro and Sala-i-Martin (1992) confirmed the theory from the Solow-Swan model about convergence, in the different states in the US. Mankiw, Romer and Weil (1992) added, in a cross-country study, that technological differences between countries are the main cause for GDP per capita differences. They also concluded that countries with the ability to muster for change in investments, R&D and education could catch up in growth. Sala-i-Martin (1996) did a study on 7 OECD nations and found that the speed of convergence across regions is surprisingly similar and low with a rate of two per cent. He reasoned that one likely cause would be the lack of mobility of technical diffusion, meaning technical improvements do not flow freely across countries or regions and technological imitation and implementation come with a cost.

On the opposite of for example Barro and Sala-i-Martin as well as Mankiw, Romer and Weil, Quah (1996) argued of biased results in the empirical research of convergence. He stated that findings of a two per cent convergence rate could originate from unrelated aspects of growth. In his research he recognised the possible existence of convergence clubs, which is when similar countries converge towards the same or near steady state(s), however, Quah argued for evidence of an increase polarisation in the income distribution where poor countries are getting poorer and rich countries becoming richer.

A previous study examining the EU policy of growth and cohesion is, for example, by Avdikos and Chardas (2016). They argued that the current structural framework between 2014 to 2020 is too vague in the policy formulation. They also stated that the existing disparities in
the union will probably worsen because the lack of structural reforms is preventing the policy’s potential outcome of growth.
4. METHOD

Most of the scientific papers on regional economic growth use quantitative methods in answering how growth has changed in certain regions. Usually, they also try to give an economic reason why growth differs in different regions and what the most influential factors of growth are. In contrast to the other papers, which are trying to answer how, what and why about growth, this paper will try to answer if a part of EU’s regional growth policy corresponds to the results from academic literature. To answer this question a qualitative analysis is used. This is done by performing a selective literature review and by implementing a policy analysis.

This study has been conducted by searching in two major search engines. One of the used search engines is Econlit and it is a major and conventional search engine of economic papers (Umeå Universitetsbibliotek, 2016). The other is Google Scholar and it is a broad search engine in several academic fields including the field of social science. The articles have been searched using search words and combination of sentences that are in relation to the thesis’ purpose and objectives.

In literature reviews, it is common to address the ethical perspective of the reviewed studies. However, the majority of the studies reviewed in this thesis are quantitative studies where data has been gathered from different kinds of databases and not from any experimental studies. So, from an ethical perspective, any moral degeneration or harmful impact on persons, as a consequence of how the studies have been made, are assumed to be neglectable.

Policy analysis is a systematic evaluation of a governmental or political decision, implementation, adoption or course of action which is made to improve economic, social or other societal issues. The thesis’ policy analysis will be a comparison between the most important aspects of regional growth and of the structural and cohesion funds summarised in the literature review, with a policy document regarding the investment priorities of ERDF. This will be summarised and presented in a table to get a comprehensible overview of the main findings and to make an overall comparison.

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1 See the Appendix Table 10.1 for the complete search words and sentences for the study.
5. RESULTS

5.1 Literature review of convergence, growth and the structural and cohesion funds

Martín and Sanz (2003) did a study on absolute convergence in four lagging EU member states at the time, Portugal, Spain, Ireland and Greece. They showed evidence of convergence between 1986 to 1998 but highlighted that the most influential factor was growth strategies implemented by the countries themselves. The authors further suggested that the Central and Eastern European Countries (EU10), who joined the EU in 2004, would have a high likeliness of converging towards the per capita income levels of the other member states in the accession. Rapacki and Próchniak (2009) tested this claim to see if the EU enlargement in 2004 had an impact significantly different from zero of absolute convergence for the joining members (EU10). Their results demonstrated that the merging positively impacted economic growth and the EU10 were catching up with the rest of the EU as Martin and Sanz (2003) suggested.

Siljak (2015) did a study of convergence on the country level in the EU and examined different time periods between 1995 to 2013. Her results indicated that convergence occurred in all time periods except 2009 to 2013 when the EU10 experienced divergence due to the global financial economic crisis. The highest convergence rate was in the time period between 2004 and 2008, which was the following years after the EU10 joined the rest of the union. The rate of absolute convergence in this period was an average of 3.91 per cent per year, compared to the period between 1995 and 2003 when the corresponding figure was 1.71 per cent. Even though countries must fulfil the criteria of democracy, market economy, fiscal stability and other obligations a couple of years before joining the EU, the accession contributed with the necessity for countries to increase their competitiveness which resulted in an upswing of cost-effectiveness and trade. When she included socio-political variables in the regression model the result showed that the convergence rate could be higher if the socio-political differences would decrease.

Ertan Ö zgüzer and Oğuş-Bınatlı (2016) investigated economic complexity and growth and if it contributed to convergence for the economies of EU members. Their measurement of complexity was a country’s ability to change its economic structure to produce and export more advanced products and hence increase its possibility to compete on the market. Their conclusion was that, if a country was above a certain threshold of complexity, the convergence rate would be significantly higher.

One hypothesis is that the degree of quality for a recipient country or region’s government matters for the structural and cohesion funds’ impact on growth. One reason for this is, it is
mainly the member states which implement the policy of the funds and handle where and to what the means will go to. This was studied by Rodríguez-Pose and Garcilazo (2015). They showed that there was a relationship between the quality of the local and regional governments and the growth impact from the structural and cohesion funds. Their analysis indicated that both the quality of governments and the EU funds targeting regions had a significant impact on growth. However, when the investment support exceeded a certain threshold, which they calculated to EUR 120 in cohesion expenditure per person and year, the quality of local and regional government was by far more important than increasing public investments. Their conclusion was, to get more growth in many of the main regions which the funds are targeting, it would need massive amounts of more investments if the quality of local governments does not improve significantly.

Dreyer and Schmid (2017) did a comparison in convergence between different levels of integration with the European Union in the first 15 years of the Euro from 1999 to 2013. They compared non-member countries, EU members states and the states in the European Monetary Union and thus have Euro as currency. They identified that the EU membership had a positive impact on growth but could not state the same about the Euro currency membership. Contradictory of the hypothesis, more integration should generate more growth, the Euro had a negative impact on growth during the financial crisis. The authors reasoned that asymmetric shocks to the economy affected the Eurozone heavier than to other EU-members. The answer behind the argument lies in if the Eurozone was an Optimal Currency Area (OCA) or not. The authors argued, that for the time of the financial crisis, it was the latter. The reason for this is when a temporary asymmetric shock, for example a negative trade shock, hits a country with an individual currency compared to a currency union, the depreciation of the country’s own currency will mitigate the effects of the shock (Carlin & Soskice, 2006, p. 402). For a currency area, the downturn of the country affected the most from a shock will not impact the depreciation of the union’s currency proportionally. This was, according to Dreyer and Schmid (2017), a major reason why the Euro had a negative impact on growth compared to non-Euro members during the financial crisis. However, after the financial crisis, the Euro-area has gone towards being an OCA (Dreyer & Schmid, 2017). The establishment of the European Stability Mechanism and the agreement of a European banking union are two examples of measures taken to dampen the effects of shocks and to stabilise the banking sector (IMF, 2018, p. 82).

In a regional perspective of integration, a study made by Petrakos, Kallioras and Anagnostou (2011) examined determinants of growth in the European Union between 1990 and 2003. Their findings suggested that a neoclassical Solow growth model was better when
analysing growth performance at a lower development level and that an endogenous growth model had a better probability to explain economic growth in more advanced levels of economies. Their results stated that agglomeration economies, economic integration and structure, and geographical location had the biggest effect on growth at a local or regional level. Geographical location impacted growth to the extent in what way the region had accessibility to the European market. They showed that even though transport technology improves, rural regions face higher transportation costs and have a harder time to compete. Furthermore, advanced regions tend to have higher growth due to as for example more openness and that the structural similarities to the rest of the integrated and developed regions of Europe are high. Gagliardi and Percoco (2017) reached similar conclusions in their study of the poorest regions in the EU between 2000 and 2006 to see if the structural and cohesion funds had affected regional growth. Their results proved that the funds made an impact of higher growth, but the effects were mainly driven by regions close to larger city areas. These regions grew faster because of the geographical advantages of being near big urban agglomerates. This is because a higher rate of business activities and flow of people are more prominent to increase the effects of the support from the structural and cohesion funds.

In another aspect of economic structure, Percoco (2017) did a study analysing if the local economic structure made a difference on the impact the structural and cohesion funds had on regional growth between 1997 and 2008. The conclusion was that a bigger service sector meant a lower growth and lower impact from the funds. So, the funds would be of better use if they were directed to areas where the service sector is at the beginning of its development phase.

In a study by Cuaresma, Doppelhofer and Feldkircher (2014) the determinants of growth in 225 European regions were analysed between 1995 and 2005. The authors concluded that capital city regions were growing faster, especially eastern European regions. They also concluded that education was a strong driving force of growth because the result showed a significant effect on growth when the regions’ population had a large share of highly educated workers.

Crescenzi and Rodriguez-Pose (2012) analysed if infrastructure, proxied as regional motorways, affected regional growth relative to other variables such as the local socio-economic conditions, innovation and migration between 1990 and 2004 in different regions in 11 of the EU15 member states. Their study indicated that infrastructure was a poor predictor of regional growth. They showed that, for example, regions ability to attract people to move there and investment in R&D and innovation capacities affected growth better.
Sterlacchini (2008) studied the relationship between European regional growth and the level of human capital between 1995 and 2002 in twelve of the European member states. The results showed that higher spending on R&D and a higher share of the population with a university education were the most influential variables affecting regional growth. However, in his study, the results differed clearly between regions in different states, namely between northern parts and southern parts of Europe. In the southern parts of Europe, the variables R&D spending and tertiary education were not significant for growth compared to the northern parts. When country-specific explanations were overlooked, he reasoned that this finding could originate from a technological gap between universities and research centres to business. Another explanation from Sterlacchini (2008) was also of institutional aspects, as for example how the market incentives are for high-tech start-ups and how regulations affect the ability to start new production of products or services. He concluded that spending on R&D and education needs to be in combination with a wider policy framework on growth. Innovation, knowledge and technology need to overlap and be bridged between public institutions and private innovative firms.

McCann and Ortega-Argilés (2015) discussed in their study, *Smart specialization, Regional Growth and applications to European Union cohesion policy*, of how knowledge-growth and technological spill-overs between sectors and between regions, stemming from information and communication technology, have an important effect on economic growth and reducing productivity gaps between regions. This smart specialisation is meant to increase entrepreneurial prospects and incentives in regions to increase the possibilities to get medium-term specialisation opportunities. However, it places a challenge on policymakers because entrepreneurial opportunities are best identified by entrepreneurs themselves and not by politicians. But to come as close as possible to promote smart specialisation is to develop a region characteristic based policy to direct funds and give credit opportunity to small businesses. (McCann & Ortega-Argilés, 2015)

The recent critique against the structural and cohesion funds comes among others from Breidenbach, Mitze, and Schmidt (2016) which stated that the funds are negatively related with regional growth in the period of 1994 to 2007. Their findings imply that the structural and cohesion funds do not induce growth above the average income convergence rate that they are meant to achieve. The lagging regions receiving funds risk getting stuck in growth traps because of technological and structural underdevelopment. The authors argued it stems from short-sighted investments to increase convergence rapidly instead of long-term structural reforms leading to better chances of lasting economic growth. Becker, Egger and von Ehrlich (2018)
got a different result but drew a similar conclusion. They investigated the effects of regional policy in the timespan of 1989 to 2013 and showed results of positive growth from the structural and cohesion funds in the poorest regions in the European Union. However, the fundings’ effect on growth from the structural and cohesion funds were in some cases subsiding fast when the investments stopped. Their conclusion stated that for the funds to have the desired effect of longer and sustained growth, the investments would need to be steered towards projects which generate longer-term growth and avoid such which give a one-time growth spike.

Farole, Rodríguez-Pose and Storper (2011) discussed the EU cohesion policy in the context of efficiency against equity. They reasoned that some objectives, as providing certain basic standards of welfare, such as public institutions, must be kept separate from the objective of providing regional growth because sometimes they contradict each other. The authors placed less focus on convergence and more on how to target underdevelopment in a way that both gives local and EU growth. They decisively argued of a territorial and regional tailored policy for regional development to be able to achieve better outcomes. Any form of unilateral policy for all regions would disregard the region-specific needs and requirements. However, this would demand structural changes in how the European Commission, but also the national and regional governments work with cohesion policy and the interactions between the three. For example, the European Commission would need to amplify the monitoring and the examining of results and local governments would have to propose and comply with the European Commission about interventions and projects. Farole, Rodríguez-Pose and Storper (2011) also shed light on some risks of cohesion policy where the funds can distort the underlining market conditions. It can crowd out private investments to such a degree that when regions stop getting funded, the growth declines. This is in close proximity to another hazard which is when dependency arises of the funds because structural changes have only affected the consumption side and not the production side of the region. Another risk is when projects are copy-cats of other regions’ successful growth developments. If the copy-cat region does not have the same prerequisites of progress, growth cannot be guaranteed. The authors also put forth risks with their suggested decentralisation of policy implantation. Such could be firms or individuals trying to influence political or public staff in order to improve their own position in a particular market, in order to profit themselves in a rent-seeking way. Another risk is non-transparency and it is explained by the authors as of crucial importance to avoid. An open and transparent system does not only give credibility to the policy, but it also decreases the incentives of elite-capture, rent-seeking and other kinds of abuse or manipulations of the system. To evade these kinds of risks the authors suggested stronger checks and balances of the policy in transferring
funds and evaluation of projects. They highlighted that independent auditing agencies are needed to give impartial evaluations, and also that the European Commission or other governing authorities need to have the credibility and possibility to end or withdraw funds that are either misused or not reaching their goals. (Farole, Rodríguez-Pose & Storper, 2011)

5.2 **Summary of the main growth-inducing factors**

In the literature review, there are factors that can be highlighted because of their influence and impact on growth. The first is areas with agglomeration effects meaning high rates of business activities as well as flow of people. This factor is addressed by different authors and its effect on growth. The second is geography and accessibility to the European market. This can be quite intuitive but also in close proximity to the first condition. Two other factors are investments in R&D and innovation, but also in education. These features are also well mentioned in the theory of growth. Another is economic complexity, the ability to change a region or country's economic structure to produce and export more advanced products, which relates to human capital. Knowledge-growth and technological spill-overs stemming from information and communication technology development are also important factors. Smart specialisation and direct credits to small businesses are also subjects of impact and inducers of growth. Another factor that is featured in the review is integration, which relates to how attractive areas are to move to for labour and how well it satisfies labour mobility. The last factor is the quality of local governments, which has shown to impact how well the structural and cohesion funds affect growth in European regions.

5.3 **EU cohesion and growth policy of the ERDF**

The ERDF's objective is to increase the economic, social and territorial cohesion by targeting the foremost underdeveloped and lagging regions in the union. This is overall done by promoting and financing small and medium-sized enterprises (SMEs), information and communication technology (ICT) and carbon reducing measures in all the sectors of the economy. (European Commission, 2015, 201)

The policy also states that special attention should be devoted to the outermost regions in Europe, for example, the northernmost regions, islands or mountain regions and regions with handicaps such as remoteness, small size and low population density. (European Parliament and the Council of the European Union. Regulation 1301/2013, p. 293)
The European Union’s cohesion policy has 11 thematic objectives, the ERDF policy supports all of the objectives but the first four are the main investment priorities of the fund. The 11 thematic objectives and investment priorities are:

1. “[S]trengthening research, technological development and innovation” (European Parliament and the Council of the European Union. Regulation 1301/2013, p. 294)

ERDF invests in research and innovation (R&I) and R&I infrastructure to enhance technological development. It invests to promote the development of links and interactions between businesses, research centres and higher education. It promotes the development of products and services, technology transfers as well as social and eco-friendly innovation. The fund also promotes open innovation via smart specialisation and advanced product manufacturing especially in important technologies and the distribution of them. (European Parliament and the Council of the European Union. Regulation 1301/2013).

2. “[E]nhancing access to, and use and quality of, ICT” (European Parliament and the Council of the European Union. Regulation 1301/2013, p. 294)

The fund's investment in improving the accessibility of high-speed networks and the adoption of a more digital economy will increase the access and quality of ICTs. The fund also supports the development of transformation to a more digital economy in improving the ICT to be used in the public sector as for example e-health, e-learning and e-government. (European Parliament and the Council of the European Union. Regulation 1301/2013)

3. “[E]nhancing the competitiveness of SMEs” (European Parliament and the Council of the European Union. Regulation 1301/2013, p. 294)

The fund promotes the improvement of competition in small and medium-sized enterprises (SMEs). This is done by enhancing entrepreneurship and the opportunity to create and build new firms to be innovative and competitive in both regional national and international markets. (European Parliament and the Council of the European Union. Regulation 1301/2013)

The fund invests in the transformation to a low-carbon economy, for example, in renewable energy sources, energy efficiency of businesses, infrastructure, public buildings and in the housing sector. It also supports the research and innovation (R&I) sector in the development of low-carbon technologies. (European Parliament and the Council of the European Union. Regulation 1301/2013)


The fund supports investments required to adapt to climate change effects in risk prevention, disaster resilience and management systems in the event of severe climate effects. The fund invests in resource efficiency and environmental protection in the way of promoting the improvement of the waste sector, protecting and conserving natural heritages and biodiversity. (European Parliament and the Council of the European Union. Regulation 1301/2013)

6. “[P]reserving and protecting the environment and promoting resource efficiency”

   (European Parliament and the Council of the European Union. Regulation 1301/2013, p. 294)

The fund advances to mitigate air pollution, decontaminate brownfields and improve noise-reduction actions. It also invests to help the industrial transition of a resource-efficient economy, promoting sustainable growth and green innovation in both the private and public sector. (European Parliament and the Council of the European Union. Regulation 1301/2013)


The fund promotes the development of sustainable transport infrastructure and low-carbon transportation systems to increase regional and local mobility. It also aims to connect important nodes in the transportation system to increase regional mobility. (European Parliament and the Council of the European Union. Regulation 1301/2013)

8. “[P]romoting sustainable and quality employment and supporting labour mobility”

   (European Parliament and the Council of the European Union. Regulation 1301/2013, p. 295)
The fund promotes and supports employment and labour mobility in investing in the creation of businesses, self-employment but also in the adaptation for declining industrial regions to improve employment-friendly growth. In this manner, the fund also enhances regions’ capabilities to use cultural and natural resources and invests in the infrastructure of employment services and opportunities. (European Parliament and the Council of the European Union. Regulation 1301/2013)


To decrease social exclusion and decreasing poverty and discrimination, the fund invests in healthcare and healthcare infrastructure, social and public services as well as recreational and culture services. It also supports disadvantaged rural and urban areas to redevelop physical, social and economic regeneration. (European Parliament and the Council of the European Union. Regulation 1301/2013)


11. “[E]nhancing institutional capacity of public authorities and stakeholders and efficient public administration through actions to strengthen the institutional capacity and the efficiency of public administrations and public services related to the implementation of the ERDF, and in support of actions under the ESF to strengthen the institutional capacity and the efficiency of public administration” (European Parliament and the Council of the European Union. Regulation 1301/2013, p. 296)

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2 There is no explanation to this investment priority because there are none in the EU policy document.

3 Same as above.
6. COMPARISON OF RESULTS

The Tables 6.1 and 6.2 are a comparison summary between the factors affecting growth from the literature review and the EU cohesion policy. More specific, they show whether the investment priorities of the ERDF are supported by the reviewed academic literature.

Table 6.1 Compliance of ERDF’s main investment priorities with the literature review

<table>
<thead>
<tr>
<th>ERDF main Investment Priorities #1-4</th>
<th>Supported by the literature</th>
<th>The corresponding inducer of growth from the literature review</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>PARTLY SUPPORTED</td>
</tr>
<tr>
<td>1. Strengthening research, technological development and innovation</td>
<td>Yes</td>
<td>PARTLY SUPPORTED</td>
</tr>
<tr>
<td>2. Enhancing access to, and use and quality of, ICT</td>
<td>Yes</td>
<td>PARTLY SUPPORTED</td>
</tr>
<tr>
<td>3. Enhancing the competitiveness of SMEs</td>
<td>Yes</td>
<td>PARTLY SUPPORTED</td>
</tr>
<tr>
<td>4. Supporting the shift towards a low-carbon economy in all sectors</td>
<td>No</td>
<td>PARTLY SUPPORTED</td>
</tr>
</tbody>
</table>

The Table 6.1 compares the ERDF main investment priorities with the factors affecting growth from the literature. The Table 6.1 shows that three out of four of the main investment priorities correspond to the literature and one is not corresponding.
Table 6.2 Compliance of ERDF’s other investment priorities with the literature review

<table>
<thead>
<tr>
<th>ERDF Investment Priorities #5-11</th>
<th>Supported by the literature</th>
<th>The corresponding inducer of growth from the literature review</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Promoting climate change adaptation, risk prevention and management</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>6. Preserving and protecting the environment and promoting resource efficiency</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>7. Promoting sustainable transport and removing bottlenecks in key network infrastructure</td>
<td>Partly supported</td>
<td>Geography (accessibility to the European market)</td>
</tr>
<tr>
<td>8. Promoting sustainable and quality employment and supporting labour mobility</td>
<td>Partly supported</td>
<td>Economic structure and integration</td>
</tr>
<tr>
<td>9. Promoting social inclusion, combating poverty and any discrimination</td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>10. Investing in education, training and vocational training for skills and lifelong learning by developing education and training infrastructure</td>
<td>Yes</td>
<td>Education</td>
</tr>
<tr>
<td>11. Strengthen the institutional capacity and the efficiency of public administrations and public services related to the implementation of the ERDF</td>
<td>Yes</td>
<td>Quality of local government</td>
</tr>
</tbody>
</table>

The Table 6.2 shows that two priorities are supported by the results of the literature review and rest are either partly, or not supported. Out of the latter are two partly supported and three priorities are not supported.
The first investment priority - *strengthening research, technological development and innovation* - is supported by the results of the reviewed literature on regional economic growth. It corresponds in the aspect of innovation and technological development but also in smart specialisation and changing the economic structure to produce more advanced products and services. The second priority - *enhancing access to, and use and quality of, ICT* - is also directly linked to the academic results of growth. The infrastructure of information and communication technologies is a basic underlining feature to improve technological development, it also gives spill-over effects of growth in regions and sectors in the economy. The third investment priority - *enhancing the competitiveness of SMEs* - is in line with the literature review, supporting small and medium-sized business is important to create jobs and growth. The fourth priority - *supporting the shift towards a low-carbon economy in all sectors* - is not supported by the findings of the reviewed studies and therefore the space in the right bottom corner of Table 6.1 is left blank.

In Table 6.2, the priorities five and six - *climate change adaptation and protection of the environment* - are not addressed in the literature review and are therefore ticked as no. The priority investment number seven - *sustainable transport* - and eight - *sustainable employment and labour mobility* - are however partly described in the selected studies. The factors of geographical location and the possibility to access the European market are improved by the ERDF’s priority of improving road and transport infrastructure as well as increasing regional and local mobility. The eighth priority is also partly supported by the factor of geographical location because of the funds´ investments in labour mobility, and the factor of economic structure and integration due to ERDF’s investments in regions´ capabilities of using resources and improving employment infrastructure. The ninth priority - *promoting social inclusion, combating poverty and any discrimination* - is not mentioned in the literature but the 10th priority - *education and lifelong learning* - is an inducing factor of growth. The 10th priority, education, is well mentioned in the economic growth theory as well as in the literature review and it has been demonstrated that education and human capital are vital to an economy’s knowledge and technological accumulation and hence to increase growth. The 11th priority - *institutional capacity and efficiency of public administrations* - are also confirmed by the literature. The local and regional governments´ quality and its capabilities of implementing the structural and cohesion funds have a major influence on how the funds impact regional growth.
7. DISCUSSION AND POLICY ANALYSIS

In an economic efficiency evaluation of the fund’s investment policy, the results, that five out of 11 investment priorities are not fully supported by the literature review, it is questionable if the fund maximises the potential of growth in every investment. In the light of the results above, how efficient and growth-inducing should the fund(s) be?

7.1 Convergence on a macro level

From the perspective of economic growth, there seem to be factors on a national or international level that affect convergence and growth regardless of the structural and cohesion funds’ investments. As an example, the enlargement of the European Union has strong evidence of contributing to economic cohesion for the accessioning countries (Rapacki & Próchniak, 2009; Martín & Sanz, 2003). The countries joining the EU have in beforehand met criteria of institutional, fiscal and market conditions which themselves generate stability and the foundation of structural growth. However, the enlargement and the access to the European inner market increase trade, the rate of business activities and the mobility of people and labour. (Siljak, 2015) The tendency of higher growth in agglomeration and around bigger cities generates by how the structuring of the European market is formed, a free market where competitiveness is encouraged. This alone is not a negative fact regarding growth. The theory of growth and the empirical data are substantive on this subject, that is competitive markets increase growth and generate more welfare. However, this is rarely ever Pareto optimal. With free mobility in the union, it must be regarded as rational that people move and start businesses where they can maximise their own utility. This makes it more difficult for rural regions with a low population density to thrive and to get the same welfare as people in urban city regions or where agglomeration effects arise.

Another possible contributing factor affecting growth, regardless of the structural and cohesion funds, is to have Euro as currency. Dreyer and Schmid (2017) showed evidence that the final integration to the European market on a macro monetary level, of joining the EMU and getting Euro as currency, was not contributing to growth. In fact, they presented evidence of a negative impact during the years and aftermath of the financial crisis compared to countries with their own currency. However, the further the integration of the European Monetary Union's nations and the closer the monetary collaboration is of becoming an Optimal Currency Area, the lower is the risk for uneven impacts of financial shocks. With this direction of economic integration, the Euro could well become the cost-effective and growth-inducement factor it was
meant to be. These kinds of macro-level integrations are important to take into consideration, in the same way as Sala-i-Martin (1996) discussed, for how to direct the structural and cohesion funds as well as where the utility of the means is highest.

### 7.2 Regional growth and convergence, efficiency compared to equity

As Petrakos, Kallioras and Anagnostou (2011) showed, regional growth in the EU is not even. The regions that have an advantage in geographical location, in the sense of accessing the EU market in a cost-effective way and the regions which can develop its economic structure towards openness and similarity to other advanced European regions, will experience growth. The EU policy of regional development and cohesion tries to amend, or at least lower, such differences between European regions to create cohesion. However, looking at some evidence (Gagliardi & Percoco. 2017; Breidenbach, Mitze, & Schmidt, 2016) it seems like a part of the EU cohesion policy could be swimming against the economic current.

When analysing national and regional growth, the empirical results depict education as an important and determinant factor of growth (Cuaresma, Doppelhofer & Feldkircher, 2014; Sterlacchini, 2008). This is well in line with the ERDF’s investment policy. Education and especially higher education improve human capital and knowledge for regions and nations. Education in combination with innovation and technological development are prerequisites of creating a more complex production of products and services as well as their production chains. This is the sort of a more complex economic structure that Ertan Özgüzer and Oğuş-Binatlı (2016) showed evidence of significantly improving growth.

The structural funds’ investments targeting research and innovation sectors and enhancing technological development as well as bridging research centres and universities with business are supported from the literature as strong engines of growth (Crescenzi & Rodríguez-Pose, 2012; Sterlacchini, 2008). ERDF’s priority of investing in information and communication technology is also reinforced by the literature, for example from McCann and Ortega-Argilés (2015). The development of innovation in the communication sector gives spillover effects and benefits many sectors of the economy. The fund’s investment in communication infrastructure will likely benefit all regions but foremost in rural regions where private firms may find the return of investments too low to establish themselves. Other sorts of region-based aid or investments, to create entrepreneurial opportunities, incentives and possibilities for small businesses to create jobs, are as well important for growth. (McCann & Ortega-Argilés, 2015) Also, according to IMF (2018, p. 95) the majority of employment in
Europe stems from SMEs. Therefore, the ERDF’s investment priority of supporting SMEs is important for job opportunities and is related to regional growth.

The structural and cohesion funds’ investments to underdeveloped regions and sparsely populated areas are not as efficient as to regions close to bigger cities or agglomerates (Gagliardi & Percoco, 2017). But as Farole, Rodríguez-Pose and Storper (2011) reasoned, some basic welfare, infrastructure, communication and public institutions should be supplied to the general population without regarding too much of the efficiency in terms of costs or the necessity to generate growth. The investments of for example in high-speed internet and other communication infrastructure are vital for job opportunities and to give rural regions an opportunity to develop. However, the line of crossing over to wastefulness of resources could be thin. The risk of trying to boost growth in regions where structural issues prevent development is if dependencies of the means arise (Farole, Rodríguez-Pose & Storper, 2011). It could even be worse if misjudged investments lead to growth traps because of market distortions and the consequence is that underdevelopment persists (Breidenbach, Mitze, & Schmidt, 2016).

7.3 The quality of regional governments and effects on the structural and cohesion funds

One of ERDF’s investment priorities that complies with the result of the literature review, but is not among the main investment priorities, is the improvement of quality for local or regional governments. It is at the local or regional level where the majority of the funds´ investments are implemented and channelled through. Rodríguez-Pose and Garcilazo (2015) showed that the quality of regional or local governments, which is among others measured by government efficiency and accountability as well as the absence of corruption, has a significant impact on how regions´ growth rates are affected by the structural and cohesion funds. This is seemingly an intuitive aspect of how growth-efficient and cost-effective the investments are. If regional governments are lagging in knowledge, competence or the ability to be statesmanlike, the risk of means going to poorly chosen projects, self-interests or fraudulent activities is likely high. On this matter, Farole, Rodríguez-Pose and Storper’s (2011) conclusions, about how to improve the regional policy in order to increase the local and regional governments capability of channelling funds are important. Equally important is their suggestion of how to optimally implement policy directions to better administrate the relationship between the European Commission, national authorities and the regional governments. Transparency is described to be the key to get better policy outcome and thus in a way, a better quality of local and regional governments. It also requires better checks and balances, as for example, in forms of
independent auditing of the structural and cohesion funds’ projects. Transparency is imperative to be able to fully decentralise the policy implementation to a regional level and simultaneously let the European Commission keep their insight and overall sovereignty over the means.

To increase the quality of local and regional governments is an important step towards enhancing the structural cohesion funds’ impact on regional growth. The evidence presented by Rodríguez-Pose and Garcilazo (2015) is direct. If the funding per capita exceeds a limit of EUR 120 a year, the marginal increase in growth is very low if the quality of government is poor and unchanged. However, the possibility to improve the quality of government could be a challenge. There may well be opposition in the region of such changes in public institutions, but it could also be unpopular to direct a lot of resources from the fund to enhance a region’s government sector which alone does not affect growth very much. These are some challenges that the EU cohesion policy face in improving the efficiency of the union’s public resources in ERDF and the rest of the structural and cohesion funds.

In the 11th thematic objective of the EU cohesion policy, it states that the fund should improve the regional governments in their performance of handling the European funds to increase the efficiency of the means and to enhance the institutional capacity. This is however not ERDF’s main policy and thus it places less weight on this objective compared to the first four. Nevertheless, regarding the importance of the regional governments’ quality and capacity of the structural and cohesion funds’ growth efficiency, it could be a well-adopted change to increase the 11th objective to a higher status and weight in the ERDF and the overall EU cohesion policy.
8. CONCLUSION

8.1 General conclusions

The purpose of the study has been to evaluate the basis for the European Union’s measures to strengthen and contribute to economic growth and cohesion in Europe and to test if these measures are supported by the results from academic literature on economic growth. The study is limited to one structural fund, which is the European Regional Development Fund, ERDF.

In general, the growth and cohesion objectives of the ERDF comply reasonably well with findings of economic studies. Specifically, this study shows that seven out of ERDF’s 11 investment priorities correspond or fairly well correspond to the results of the 16 reviewed academic studies on European growth. Concerning the main investment priorities to which a large portion of the ERDF budget is allocated, three out of four are fully supported by these studies. Thus, it can be stated that the fund, from an academic perspective, leads to desired change and fulfils the majority of its purpose.

However, the remaining results show discrepancies between the findings of academic literature on growth and the ERDF’s investment priorities and hence the policy of the ERDF. Two investment priorities are partly supported by the literature and four out of 11 are not supported at all. From a strictly economic perspective, there are reasons to raise doubts if ERDF-policies are the most efficient way to use scarce resources in getting economic growth. The overriding EU cohesion policy states economic, social and territorial cohesion. The economic aspect is one part, although dominant. The investment priorities that ended up as with limited contribution to growth and not complying to the literature, are for other aspects than economic improvements and economic cohesion. These objectives and goals are chosen for political and societal regards, as for example environmental, social and sustainable aspects. These are factors that could limit or even contradict economic growth in a shorter view but could generate or accelerate growth in a long-term perspective. Though, it is out of scope for this study.

However, a policy change that could increase the efficiency of the ERDF’s and the rest of the funds´ investments and impacts on economic growth would be to upgrade the 11th thematic objective and thus the investment priority. It would probably increase the utility of EU means to increase the priority of improving regional governments´ quality to a higher priority status or even to one of the main investment priorities in the policy. The implementation of such an agenda, to get economic development effects, could however be difficult to accept by all member states. All member states do not get the same support and it might come in conflict
with the regional governments in question. Though if the agenda would succeed, the effect of increased growth following those investments directed through the enhanced regional governments would likely be higher compared to the cost for the quality increase.

8.2 Validity of the study and future research

The method of the study was a literature review and a policy analysis, and the data, meaning the academic articles, were collected via the search engines Econlit and Google Scholar. It is always a risk of biased results using this method, specifically regarding the possibility to miss important works in gathering data, which could, if included, alter and change the study’s results. It is also a risk of biased or wrong result and misleading policy advice in using data from the past to predict or recommend about the future. There could as well be validity problems in interpreting and assessing policy and legal documents because the interpretation is always to some extent subjective, and objectiveness might be difficult to accomplish.

Future studies should focus on how and in what areas effectiveness of the structural and cohesion funds can increase the most and simultaneously, if the equity perspective of investments is lowered, the equity should only be lowered marginally. This is probably a way of being resource efficient and the same time regarding important social, environmental and sustainable factors.
9. REFERENCES


10. APPENDIX

Table 10.1 Search words used in the search engines for the literature review

<table>
<thead>
<tr>
<th>Search words</th>
<th>Article title and year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convergence and European integration</td>
<td>Real Convergence and European Integration: The Experience of the Less Developed EU Members. 2003</td>
</tr>
<tr>
<td>Regional growth European regions</td>
<td>R&amp;D, higher education and regional growth: Uneven linkages among European regions. 2008</td>
</tr>
<tr>
<td>EU enlargement and economic growth</td>
<td>The EU enlargement and economic growth in the CEE new member countries. 2009</td>
</tr>
<tr>
<td>Determinants of regional growth in the European Union</td>
<td>The Determinants of Economic Growth in European Regions. 2014</td>
</tr>
<tr>
<td>“Impact of cohesion” “European Union”</td>
<td>Quality of Government and the Returns of Investment: Examining the Impact of Cohesion Expenditure in European Regions. 2015</td>
</tr>
<tr>
<td>Growth in the European Union</td>
<td>Smart Specialization, Regional Growth and Applications to European Union Cohesion Policy. 2015</td>
</tr>
<tr>
<td>“EU structural funds” ”income convergence”</td>
<td>EU structural funds and regional income convergence: A sobering experience. 2016</td>
</tr>
<tr>
<td>“Growth effects of EU”</td>
<td>Growth effects of EU and EZ memberships: Empirical findings from the first 15 years of the Euro. 2017</td>
</tr>
<tr>
<td>“European cohesion policy” “regional growth”</td>
<td>Impact of European Cohesion Policy on regional growth: does local economic structure matter?. 2017</td>
</tr>
<tr>
<td>Impact of European cohesion policy</td>
<td>The impact of European Cohesion Policy in urban and rural regions. 2017</td>
</tr>
<tr>
<td>Effects of EU regional policy</td>
<td>Effects of EU Regional Policy: 1989-2013. 2018</td>
</tr>
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