THE IMPACT OF GOVERNMENT PARTISANSHIP ON THE EFFECTIVENESS OF EU STRUCTURAL FUNDS

A Thesis

Presented to the Faculty

of Economics and Politics programme at ISM University of Management and Economics

in Partial Fulfilment of the Requirements for the Degree of

Bachelor of Economics

by

Dovilė Ivanauskaitė

Advised by

Dr. Eglė Verseckaitė (Grzeskowiak)

May 2016

Vilnius

Ivanauskaitė, Dovilė. *The Impact of Government Partisanship on the Effectiveness of EU Structural Funds:* [Manuscript]: Bachelor Thesis: Economics and Politics. Vilnius, ISM University of Management and Economics, 2016.

Summary

An increasing portion of resources dedicated to cohesion policy in the European Union (EU) budget raises questions regarding its effectiveness: are the structural funds (SFs) inducing economic growth in regions, and which factors influence their outcomes? Academic literature suggests that administrative-managerial aspects on the national and sub-national levels play an important role in the SFs' absorption. Two hypotheses are raised. First, the paper investigates whether left-wing governments are likely to absorb EU SFs less effectively than right-wing governments, assuming that political ideology of executive parties in EU member states has an influence on the size and complexity of national bureaucracies. Second, it inquires whether less effective absorption of EU SFs is likely to produce less economic growth than more effective absorption. In order to explore these relationships, empirical data of 27 EU member states in 1990-2013 is collected, analysed, and interpreted. Fixed-effects panel analysis is performed and the findings fail to reject both of the proposed hypotheses, indicating that left-wing governments absorb less EU SFs, which, in turn, results in less economic growth. The study contributes to the literature on EU cohesion policy effectiveness, suggesting that national politics play a pivotal role in structural funds' success.

Keywords: European Union, cohesion policy, structural funds, absorption, partisanship

Table of Contents

List of Figures

List of Tables

Introduction

The Thesis explores the relationship among European Union (EU) member states' (MSs) government partisanship, their level of EU structural funds (SFs) absorption, and economic growth. This topic is of increasing importance in the EU. The proportion of structural assistance for regional projects in EU MSs has almost tripled since the early rise in 1970s (McCormick, 2011). In the current programming period of 2014-2020, the portion of the budgetary line "1. Smart and Inclusive Growth" was raised to nearly 48% of all commitment appropriations (European Commission, 2011). The rise in its importance *vis-à-vis* other EU policies prompts the need for evaluation of its effectiveness. Current academic literature leaves the effect of EU cohesion policy on the most common measure of the dynamics in national well-being – growth in its GDP – rather ambiguous (positive impact is recognized by Cancelo, Faina & Lopez-Rodriguez, 2009; Cardenete & Delgado, 2013; Churski, 2008; Maynou, Saez, Kyriacou & Bacaria, 2014; conditional effect is proposed by Bahr, 2008; Christodoulakis & Kalyvitis, 1998; Mohl & Hagen, 2010; while insignificant or even negative impact of the policy is found by Esposti & Bussoletti, 2008; Rodriguez-Pose & Fratesit, 2004).

While analysing the conditionalities of effective implementation of EU SFs, scholars have focused on administrative-managerial absorption capacity and institutional quality as crucial elements of reaching respective economic growth (Bachtler & Ferry, 2015; Bachtler, Mendez & Oraze, 2014; Bloom & Petrova, 2013; Cyburt, 2014; Ederveen, de Groot & Nahuis, 2006; Jaliu & Radulescu, 2013; Leonardi, 2006; Matei & Savulescu, 2015; Mezeniece & Rivza, 2011). Although generally government partisanship is asserted to play an "essential role in democracy" (Blais, Blake & Dion, 1993, p. 40) and directly influences major characteristics of a state (such as fiscal policy and the regulatory framework), the existing academic discussion leaves this variable mainly unappreciated. This gap in the

knowledge regarding the relationship between government partisanship and effectiveness of EU cohesion policy in MSs is an impetus for this Thesis.

The research problem of the study is thus the effectiveness of EU cohesion policy: what determines the success of EU SFs in different MSs in terms of economic growth? What is the role of partisanship? The interest in this research problem was inspired by the experience of working in a management consulting company Civitta, Ltd., gained during the period of internship. Performing an *ex-post* evaluation of an EU fund has encouraged me to elaborate on the effectiveness of EU assistance and its conditionalities.

The corresponding aim of the research is to explore the relationship between government partisanship, the effectiveness of EU SFs absorption, and economic growth. Causal links between the dependent and independent variables of the study include 3 interconnected assumptions. First, left-wing governments engage in higher public spending. Second, they introduce more economic regulation when incumbent. These policy initiatives need a more complex bureaucratic apparatus to be implemented, which in turn becomes intermediary in EU SFs absorption. Third, these bureaucratic intermediaries affect the process of funds' absorption through possibility of rent-seeking and red tape. Therefore, the hypotheses of this study suggest that, first, left-wing governments are likely to absorb EU SFs less effectively than right-wing governments; second, less effective absorption of EU SFs is likely to produce less economic growth than more effective absorption of EU SFs.

The aim of the Thesis is pursued by, first, reviewing academic literature on EU cohesion policy and its effects on economic growth (Chapter 1), as well as the effects of government partisanship on national institutional and regulatory framework (Chapter 2). The results of the analysis – the sequence of agents playing a role in the absorption of EU SFs – are presented at the end of Chapter 2; hypotheses are then derived accordingly. They are

tested using panel analysis, followed by the discussion on the significance of observed relationships, as well as limitations and recommendations for further research (Chapter 3).

Following a predominant approach towards the examination of EU cohesion policy effectiveness (Bahr, 2008; Dall'erba & Fang, 2015; Esposti & Bussoletti, 2008; Mohl & Hagen, 2010; Pinho, Varum & Antunes, 2015b), the study employs the neoclassical framework of economic growth, also known as the Solow-Swan model (Solow, 1956; Swan, 1956). Collected and analysed data includes annual observations of 27 EU MSs for the years 1990-2013. The work relies on official data sources (European Commission Directorate-General for Region and Urban Policy, Eurostat, World Bank Development indicators) as well as international expert survey (Ray, 1999).

Both of the hypotheses are not rejected: first, as expected, left-wing governments tend to have a negative impact on the level of EU SFs absorption. Second, the rate of absorption, being lower for the left-wing governments, accounts for less national economic growth afterwards, indicating the "untapped potential" that EU cohesion policy provides for each MS. The Thesis therefore contributes to the literature on the conditionalities of EU cohesion policy effectiveness, acknowledging the importance of national administrative-institutional conditions and filling in a gap in the knowledge regarding the effect of government partisanship. The analysis is suggested to be reiterated in the upcoming years of the multiannual financial framework (MFF) of 2014-2020 in order to check the estimated relationships.

1. Economic Growth of EU MSs through the Absorption of EU Structural Funds

The objective of this chapter is to examine the impact that EU SFs have on the economies of MSs. First, the concept of economic growth is addressed by presenting its definition, establishing its relevance, and examining its variance among national and regional units of the EU (see Section 1.1). Section 1.2 reviews the individual determinants of economic growth, investigated in the framework of predominant growth theories. Finally, the channels through which EU SFs affect economic growth of MSs are analysed in Section 1.3.

1.1. Economic Growth of EU Member States

1.1.1. Definition of economic growth. In the vast majority of the relevant academic literature, the concept of economic growth is defined as an increase in the amount of goods and services that have been produced by the population of concern in a certain period of time (Rynck & McAleavey, 2001, p. 544). This description stems from the tendency to measure and determine economic growth by the dynamics of national or sub-national GDP (Bahr, 2008; Dall'erba & Fang, 2015; Ederveen, de Groot & Nahuis, 2006; Esposti & Bussoletti, 2008; Mohl & Hagen, 2010; Pinho, Varum & Antunes, 2015a; Rogers, 2003). Criticised by some as not sufficient to capture other dimensions of economic growth, namely, social cohesion, development, and environment of the country (Cioban, 2014; Lequiller & Blades, 2004), GDP, however, is here to stay as the most prevalent proxy for economic performance and the main organizing principle of policy evaluation and development (Rynck & McAleavey, 2001). Therefore, in this study, growth in GDP *per capita* in each of the EU MSs is used to examine the effectiveness of EU cohesion policy.

1.1.2. Relevance of economic growth among EU MSs. Economic growth in national and regional dimensions of the EU is a critical agent for overall socioeconomic

conditions, as well as, more specifically, for the movement towards the optimum currency area (OCA). Both aspects are examined in the following sub-sections.

1.1.2.1. Importance for socioeconomic conditions. Understanding the determinants and patterns in the dynamics of economic performance is considered to be an eventual goal of economics (Rogers, 2003). This is because, as discussed by Cioban (2014), positive economic performance has a decisive role in decreasing the level of poverty (Ickes, 2008) (see Figure 1) and structural unemployment, increasing wages, private investment, and raising the levels of education, as well as the overall quality of life, in national and regional EU economies.

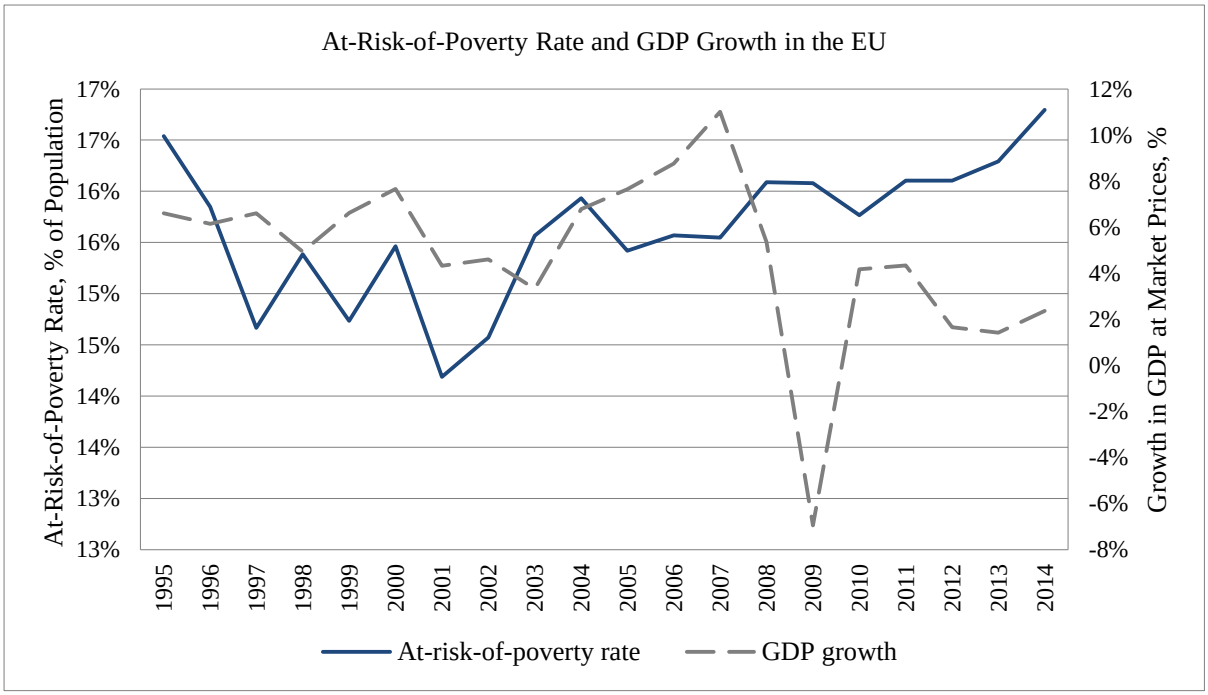


Figure 1. Negative relationship between at-risk-of-poverty rate and GDP growth rate in the EU, 1995-2014. Compiled by an author, source: Eurostat.

On the other hand, it has to be noted that these macroeconomic relationships are complex and subject to multiple exogenous determinants (Rogers, 2003), pointing out to the need for further academic investigation.

1.1.2.2. Importance for movement towards the OCA. Aside from the impact of economic growth on socioeconomic conditions, it has specific importance for the EU in terms of appropriate functioning of the Eurozone (Jager & Hafner, 2013; Vasiliauskaite & Vitkauskas, 2007). Formulated in 1960s by Mundell (1961), the theory of optimum currency areas addresses the conditions under which monetary efficiency gains of an individual country outweigh the loss of national monetary policy after becoming a member of a currency union (Jager & Hafner, 2013, p. 316). The theory encompasses 8 properties of a regional economy that leads to the functioning of OCA (Vasiliauskaite & Vitkauskas, 2007): labour mobility, flexibility of prices and wages, similar economic shocks and business cycles, economic openness, diversification of consumption and output, fiscal integration, coordination of financial markets, political integration, and similar rates of inflation.

Current evaluations of the Eurozone signify that the economy has still not reached the state of OCA since its establishment in 1999 (Jager & Hafner, 2013; Vasiliauskaite & Vitkauskas, 2007). Here, asymmetry in macroeconomic shocks is cited to be one of the most significant disturbances (Jager & Hafner, 2013). Inequalities of outcomes in times of economic downturns are a consequence of differences in regional economic performances and structures (Jager & Hafner, 2013). Therefore, efficient functioning of the Eurozone requires ongoing harmonization of national and sub-national economies. In order to decrease these disparities, EU cohesion policy was established, the detailed analysis of which is provided in Section 1.3.1.

1.1.3. Variance in economic growth among EU MSs. As it was established in Section 1.1.2, consistent and sustainable economic growth of EU MSs is vastly important for improvements in socioeconomic conditions and the effective functioning of the Eurozone. However, variance in economic performance of EU MSs persists and is worth investigating further.

1.1.3.1. Disparities in national GDP. GDP *per capita* in the EU varies significantly among individual MSs: in Luxembourg it exceeds the EU-28 average by 224%, while the measure for Bulgaria falls behind by 79% (see Figure 2).

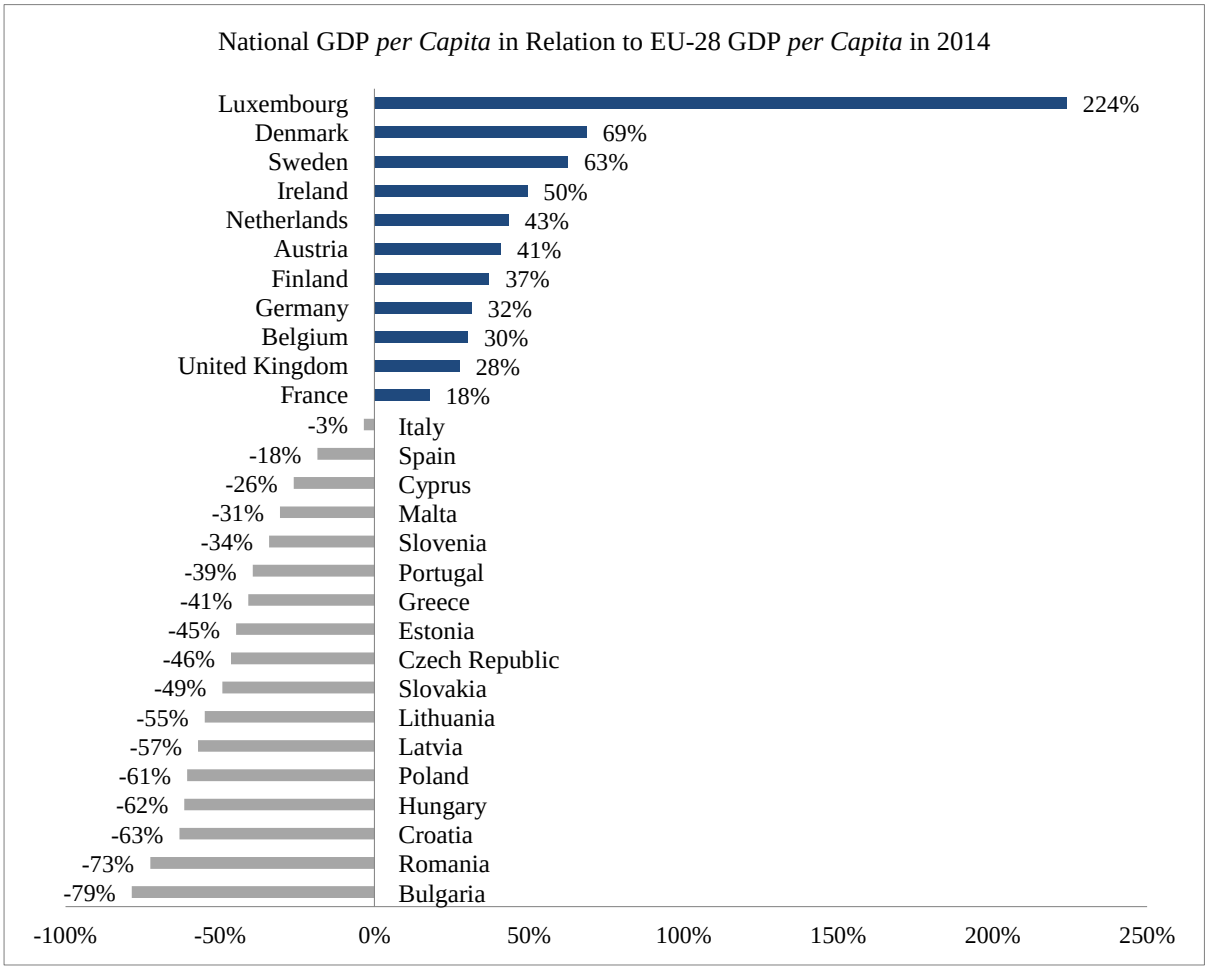


Figure 2. National GDP *per capita* in relation to EU-28 average, 2014. Compiled by an author, source: Eurostat.

Differences illustrated above are complemented by significant variation in GDP growth rates. During the post-crisis period of 2010-2014, average GDP growth rate in MSs of EU-27[1] varied between -5.6% in Greece and 7.2% in Estonia (Eurostat, 2016). With an average of 2.7% in EU-27, standard deviation of GDP growth rates was 3%, meaning that individual MSs have been developing at significantly different paces. In light of long-term

[1] EU-27 does not include Croatia, which became a MS of the EU in 2013.

economic performance, convergence among economic units of the EU is an important concept to account for and is elaborated further in the following sub-section.

1.1.3.2. Convergence among national and regional EU economies. The concept of convergence as it is currently interpreted in the light of national and regional EU economies was proposed by Barro and Sala-i-Martin (1991). The suggested breakdown of the concept into β and σ convergence was appraised by a number of subsequent studies (Beugelsdijk & Eijffinger, 2005; Lolos, 2009; Maynou, Saez, Kyriacou & Bacaria, 2014).

β convergence is a negative correlation between initial level of GDP *per capita* and its average annual growth rate (Beugelsdijk & Eijffinger, 2005, p. 39, Ickes, 2008, p. 6). The existence of this type of convergence indicates that the less-advanced regions are catching up with the more developed territories and they are approaching the steady state of the Union. σ convergence, on the other hand, concentrates on the dispersion and inequalities among regions which are decreasing with time (Beugelsdijk & Eijffinger, 2005, p. 39-40; Maynou, Saez, Kyriacou & Bacaria, 2014, p. 2-3; Rogers, 2003, p. 113). Following the conclusion of Beugelsdijk and Eijffinger (2005), β convergence is a necessary yet insufficient condition for σ convergence.

As it is established in academic literature, the trend of β and σ convergence in the EU is either not empirically observed (Rodriguez-Pose & Fratesit, 2004), or its presence is ambiguous or conditional (Ederveen, de Groot & Nahuis, 2006; Maynou, Saez, Kyriacou & Bacaria, 2014; Pinho, Varum & Antunes, 2015a). According to Rodriguez-Pose and Fratesit (2004, p. 105), the reasons for variance in convergence across EU regions, programmes and time periods might include concentration of economic activities in the core of the Union, causing the peripheral regions to specialize in low-value-added activities, as

well as the distortion of the convergence-inducing policies caused by national protectionist strategies.

Inconsistency in the conclusions on the convergence of national and regional EU economies can be illustrated by the dynamics of standard deviation of GDP *per capita* in the EU and regions of individual MSs (see Figure 3).

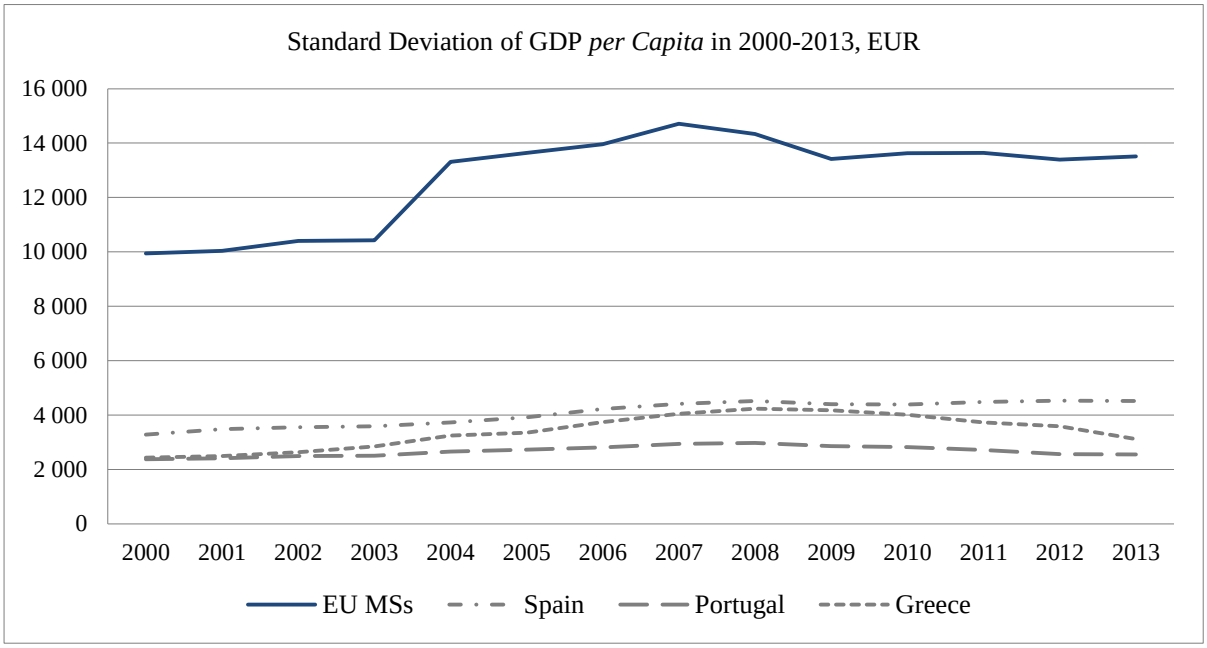


Figure 3. Increase in the standard deviation of GDP *per capita* among EU MSs and NUTS-2 regions of Spain, Portugal, and Greece in 2000-2013. Compiled by an author, source: Eurostat.

As proposed by Rodriguez-Pose and Fratesit (2004), Figure 3 illustrates the absence of constant convergence both among the EU national economies and sub-national regions of individual MSs[2]. Uneven development among different parts of the Union is targeted by EU cohesion policy (for further analysis of the policy, see Section 1.3.1), which clearly varies in its results among different MSs and programming periods (see Figure 3).

[2] Absence of sub-national economic convergence in Figure 3 was illustrated by Spain, Portugal, and Greece as these EU MSs traditionally (1990-2013) have been among the top-receivers of EU SFs (Commission of the European Communities, 1992-2007; European Commission, 2016d).

Therefore, the analysis continues with the examination of different determinants of GDP growth, aiming to investigate the patterns and causal relationships regarding this variance.

1.2. Determinants of Economic Growth

So far academic literature has been mainly focused on exogenous (neoclassical) and endogenous growth theories when explaining economic growth. In the context of this Thesis, the theory of new economic geography is examined. The aim of this section is thus to review the aforementioned theories in order to define the determinants of economic growth and to assert their respective roles.

1.2.1. Neoclassical (exogenous) theory of economic growth. Also known as the Solow-Swan growth model after their seminal studies published in 1950s (Solow, 1956; Swan, 1956, as cited in Mohl & Hagen, 2010, p. 7), the exogenous growth model relies on Cobb-Douglas production function

$$Y = A \times K^{\alpha} \times L^{\beta},$$

where Y is the aggregate output, A is technology, K is capital, and L is labour (Ickes, 2008). Marginal returns to scale for the factors of growth – α and β – are regarded to be diminishing separately (Pinho, Varum & Antunes, 2015b), yet constant when increases in K and L are complemented by each other.

Neoclassical theory of economic growth supports the convergence hypothesis (see Section 1.1.3), as it advocates that there exists a point where accumulation of L and K does not contribute to growth anymore (Dall'erba & Fang, 2015). This economic steady state can only be surpassed by exogenous technological agent A (Dall'erba & Fang, 2015; Rogers, 2003), which, among others, includes foreign direct investment (FDI), research and development (R&D), licencing agreements, and industrial espionage. This exogenously-

driven constant improvement in technology promotes marginal product of capital and, in turn, incentivizes further investments (Rogers, 2003).

The neoclassical framework is the traditional and the most frequently employed method for the analysis of economic growth in relation to EU cohesion policy (Bahr, 2008; Dall'erba & Fang, 2015; Esposti & Bussoletti, 2008; Mohl & Hagen, 2010; Pinho, Varum & Antunes, 2015b), which is the focus of this Thesis. Individual determinants of economic growth are included in the model specified as follows:

$$Y_{T\text{-}t0} = f(Y_{t0}, s, edu, n, a, \delta, \varepsilon),$$

where $Y_{T\text{-}t0}$ is the growth in real GDP *per capita*. The determinants of growth are initial value of the output (Y_{t0}), rate of domestic savings (s), accumulation of human capital (edu), population growth (n), exogenous rate of technological progress (a), and the rate of depreciation (δ), followed by an error term ε.

Holding technological progress exogenous provokes criticism of the model, as, without this determinant, modelled economic growth is claimed to be diminishing (Rogers, 2003). This controversial assumption is relaxed by the endogenous growth theory, which is further described below.

1.2.2. Endogenous theory of economic growth. Developed by Romer in his study "Increasing returns and long-run growth" (Romer, 1986), endogenous theory of economic growth modifies Cobb-Douglas production function into

$$Y = K^{\alpha+\theta} \times L^{\beta},$$

where A becomes an endogenous variable based on internal innovation of K and is specified as $A = K^{\theta}$ (Rogers, 2003).

Endogenous argument assumes the return to capital to be constant and technological progress to be developed inside the model (Dall'erba & Fang, 2015). This leads to the knowledge spill-overs being at the center of economic growth (Rogers, 2003), constituting an "empirical puzzle" regarding its evaluation (Ickes, 1996, p. 1). Thus, endogenous growth models are used less often by academic researchers in relation to EU cohesion policy.

Unlike the neoclassical approach, endogenous growth theory points to the absence of σ convergence, as marginal returns to scale are $\alpha + \beta + \theta > 1$; however, idiosyncratic conditions in different states (accumulation of human and physical capital, institutional framework, progress of technology and innovation) matter (Ickes, 2008). The theory suggests that variance in EU economic growth can only be sufficiently explained by the structure and determinants in the national economies; this notion is highly feasible, yet especially complex to quantify and test empirically (the choice between using exogenous and endogenous growth theories is addressed in Section 3.2.2).

1.2.3. Theory of new economic geography. As one the most significant shares of funding in the framework of EU cohesion policy (see Section 1.3.1) is dedicated to improving transportation infrastructure (Lolos, 2009) (see Figure 4), the decrease in transportation costs is a determinant that is important yet not explicitly covered by the aforementioned growth theories (Dall'erba & Fang, 2015). The new economic geography, proposed by Fujita *et al.* (1999) and Krugman (1991) (as cited in Dall'erba & Fang, 2015, p. 3), takes into account the enhanced accessibility of sub-national regions and thus forms the third strand of economic growth theories.

In this framework, agents of the economy are expected to relocate their activities to more advanced territories when the interregional transportation costs (additional

factor to the set of determinants used in exogenous and endogenous growth models) are decreased. Facilitated by the agglomeration of economic activity and technology spill-overs (Baldwin *et al.*, 2005, as cited in Dall'erba & Fang, 2015, p. 3), the process of relocation becomes self-reinforcing. Therefore, public investments into transportation infrastructure lead to gains that are exclusively higher in more advanced regions, contradicting the convergence hypothesis and adding to the differences in GDP growth among national and sub-national units.

1.2.4. EU SFs in the models of economic growth. Investments under EU cohesion policy, which are the focal point of this Thesis, play different roles in promoting national and regional GDP growth under each of the aforementioned growth theories. In the neoclassical framework, EU SFs correspond to public investments in the economy which has scarce capital; in this way, economic growth through the convergence to the universal steady state (in the transitional period) is only short-term (Pinho, Varum & Antunes, 2015b). On the other hand, endogenous growth theory advocates that the investments of EU SFs increase the productivity of private capital, which in turn encourages its accumulation (Pinho, Varum & Antunes, 2015b). Assuming constant returns to capital, the theory proposes that EU cohesion policy induces long-term economic growth (Dall'erba & Fang, 2015; Pinho, Varum & Antunes, 2015b). Finally, the theory of new economic geography contradicts both of the aforementioned approaches and concludes that investments of EU SFs lead to divergence of interregional GDP growth (Dall'erba & Fang, 2015).

As described above, EU cohesion policy plays an important role in promoting economic growth; however, its effectiveness is not perceived equally in the academic field. The following section analyses its impact on the economic progress of EU MSs further.

1.3. EU SFs as the Agent of Economic Growth

Having defined economic growth and discussed its relevance and variance among the national and regional EU units, the focus of the analysis is now turned onto EU cohesion policy and investments of EU SFs. First, the policy is described in detail, followed by analysis of its role in economic growth. Then, the scope and possible explanations of variance in the policy effectiveness are addressed.

1.3.1. Definition, evolution, and goals of EU cohesion policy.

1.3.1.1. Definition of EU cohesion policy. As described by the European Commission (2016a), EU cohesion policy is the implementation of numerous individual projects, co-funded by the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund. The latter only applies to those MSs, GDP of which is lower than 90% of the EU-27[3] average.

As noted by Alvarez-Martinez (2014), only ERDF and ESF are included in the composition of EU structural funds. The ERDF, established in 1975, aims to increase economic growth of regions by investing into public infrastructure and other agents of productivity. The investments of ESF, on the other hand, are focused on increasing the skills and education of labour force in the areas that are recognised as economically vulnerable (Alvarez-Martinez, 2014), thus fostering their long-term convergence towards more advanced areas.

[3] In the current programming period (MFF of 2014-2020), GDP of Croatia is not taken into account (European Commission, 2016a).

Approximately 55% of the EU SF investments have been concentrated in 3 main areas (see Figure 4).

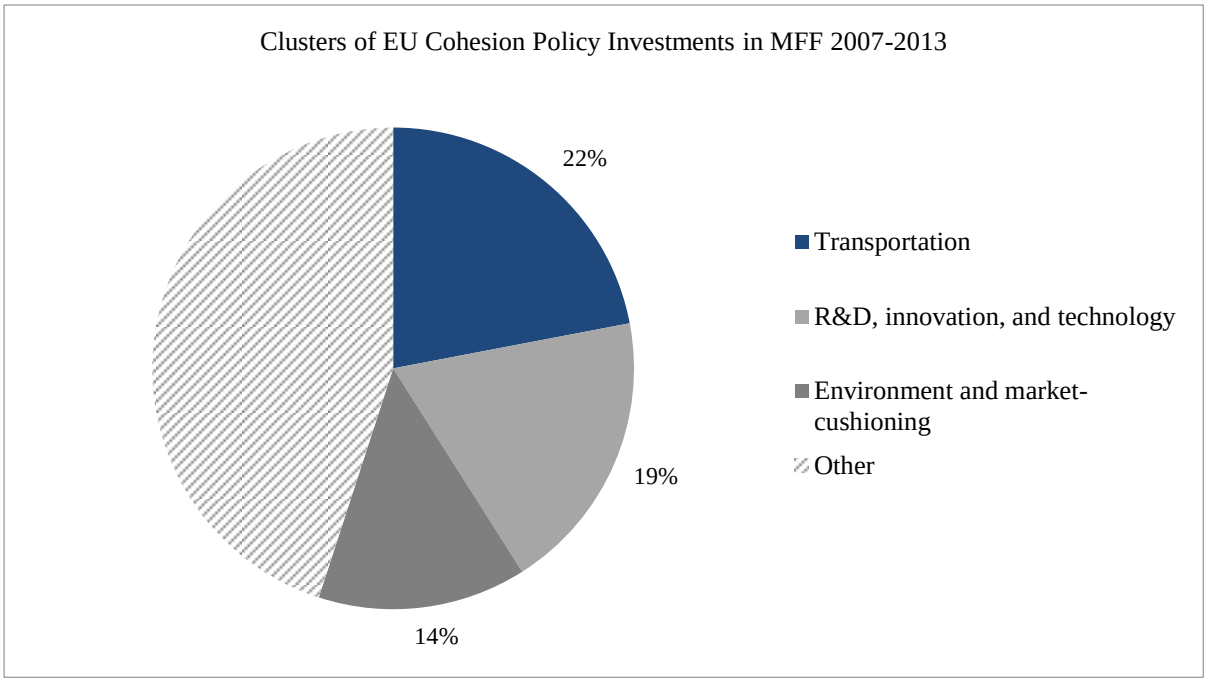


Figure 4. Clusters of EU cohesion policy investments in MFF 2007-2013. Compiled by an author based on: Pinho, Varum, and Antunes (2015b).

Approximately 22% of SFs have been dedicated for improving transportation infrastructure, 19% have been allocated in R&D and innovation or technological sectors, and 14% in the environment protection and prevention of market risks. In the current MFF 2014-2020, the focus is shifted towards fostering innovation as well as smart and inclusive growth (Pinho, Varum & Antunes, 2015b). All of these areas are recognised as the strategic catalysts for economic growth by the aforementioned economic growth models (see Section 1.2).

1.3.1.2. Evolution of EU cohesion policy. First formally mentioned in the Single European Act of 1986 (Pinho, Varum & Antunes, 2015b), EU cohesion policy has already been completed in 4 programming periods: 1989–1993, 1994–1999, 2000–2006, and

2007–2013. Up until the ongoing period of MFF 2014–2020, the policy has been modified according to the changing structures of the "ever closer union".

As highlighted by Rynck and McAleavey (2001), the first consistent and complex measures to align the EU structural funding to the goals of the Union were taken by the funds' reform in 1988. Economic and social cohesion was recognised to be an integral part of creating the EU Single market. Multi-annual approach towards the planning of funding, the principle of partnership (especially for sub-national authorities), and programme instead of individual project financing were established (Bachtler, 1998).

The second review of the policy was triggered by the Maastricht Treaty on European Union (1992), when the economic and social cohesion of the regions was defined as the priority for the EU, alongside the establishment of Economic and Monetary Union (EMU). Aiming to ensure the conditions underlined by the theory of optimum currency area (Maynou, Saez, Kyriacou & Bacaria, 2014) (see Section 1.1.2.2), EU cohesion policy was seen as a tool to improve the prospects of the EMU by inducing the economic convergence across the sub-national areas of the Union and decreasing the possibility of asymmetric economic shocks.

Current programming period of 2014–2020 brought in certain changes as well. In order to ensure effective absorption of the funds, conditioning (allocation of resources based on performance and establishment of incentive schemes to improve the absorption) was introduced (Bachtler & Ferry, 2015; Bocean, 2012), and a common strategic framework, aligned to the "Europe 2020" strategy (European Commission, 2010), was highlighted with a focus on innovation, education and smart growth (Bocean, 2012; Pinho, Varum & Antunes, 2015b). The portion of EU budget dedicated for cohesion policy has increased: in the previous MFF of 2007-2013 the heading "1. Sustainable growth" comprised 45% of the total

EU budget[4] (European Commission, 2016c), while in the MFF 2014-2020 the proportion for "1. Smart and Inclusive Growth" was raised to nearly 48%[5] (European Commission, 2011).

1.3.1.3. Goals of EU cohesion policy. The authors of relevant academic literature distinguish between several goals of EU cohesion policy. One group of scholars claims that the fundamental aim of the policy is to reduce disparities among more and less advanced regions (Beugelsdijk & Eijffinger, 2005; Jaliu & Radulescu, 2013; Rynck & McAleavey, 2001). Other statements, including the one suggested by the European Commission (2010), see this policy as a tool to achieve broader goals of the EU, namely, "employment, innovation, education, social inclusion, and climate/energy"[6]. Maynou, Saez, Kyriacou, and Bacaria (2014) see EU cohesion policy as an instrument employed to ensure satisfactory conditions for the OCA by decreasing the incidence of asymmetric shocks and cushioning the costs incurred by MSs after their loss of independent national monetary policies. Following this view, the goal of EU SFs is to support other initiatives of the Union, acting as an "ease of pain" (Leonardi, 2006, p. 157) for the less-advanced regions that incur costs of market and monetary integration. Therefore, EU cohesion policy can be interpreted as both an individual specific tool of economic development and as a piece of the broader policy framework of the "ever closer union".

1.3.2. Role of EU SFs in promoting economic growth. Initiated in Section 1.2.4, discussion on the role of EU SFs in economic growth is hereby continued and extended by examining the channels of this relationship identified in academic literature.

1.3.2.1. Demand and supply (productivity) effects. A group of researchers (Alvarez-Martinez, 2014; Andronova Vincelette & Vassileva, 2006; Christodoulakis &

[4] EUR 439 115 mn in commitment appropriations (European Commission, 2016c).
[5] EUR 490 908 mn in commitment appropriations (European Commission, 2011).
[6] Goal of the EU to achieve economic, social, and territorial cohesion was formally established in Article 3 of the Treaty on European Union as well as Article 174 of the Treaty on the Functioning of the European Union (EUR-Lex, 2016).

Kalyvitis 1998; Ederveen, de Groot & Nahuis, 2006; Esposti & Bussoletti 2008; Martin, 2000) have recognised that the investments of EU cohesion policy have joint demand and supply, also referred to as productivity, effects on regional economic units.

1.3.2.1.1. Demand effects. From a Keynesian point of view, localized investments of EU SFs increase the aggregate demand and employment in the beneficiary regions (Martin, 2000). As illustrated by Alvarez-Martinez (2014), the co-funded construction of a new highway increases demand for labour, capital, materials, and other inputs. Through the multiplier effect, this boost to the economy is both direct (i.e. increase in the employment) and indirect (i.e. increase in the demand for inputs and materials). Although these effects for the aggregate demand are the easiest to quantify and observe[7], they are not permanent (Cancelo, Faina & Lopez-Rodriguez, 2009) and are reversed once the projects are over (Martin, 2000).

1.3.2.1.2. Supply (productivity) effects. Altering supply and productivity, on the other hand, has long-term impacts on the beneficiary economies (Alvarez-Martinez, 2014; Christodoulakis & Kalyvitis, 1998; Martin, 2000). Once the EU co-funded infrastructure is in place, it increases regional sectoral productivity, long-term accumulation of capital, and reduces marginal costs of labour (Alvarez-Martinez, 2014; Christodoulakis & Kalyvitis, 1998). The same effect is anticipated for the investments into human capital and education (Alvarez-Martinez, 2014), which is the focus of ESF.

Martin (2000) analyses the productivity effects of EU SFs using a different perspective. The author advocates that the decrease in inter-regional transaction costs leads to the relocation of economic agents into more advanced regions so as to exploit the economies of scale (Martin, 2000). This suggestion supports the aforementioned new economic

[7] According to Martin (2000), while estimating the effect of SFs on the national economies, the European Commission employs Keynesian econometric models.

geography theory (see Section 1.2.3), indicating that the returns of EU cohesion policy are compound and vary among different regions depending on their idiosyncratic economic structures.

1.3.2.2. Threefold effect of EU SFs: investment, regional TFP, and labour productivity. As argued by Esposti and Bussoletti (2008), EU SFs simultaneously affect regional economies through 3 interconnected channels.

1.3.2.2.1. Effect on investment. First channel of economic growth accelerated by EU SFs is an increase in regional investment rate. Esposti and Bussoletti (2008) conclude that external co-funding induces capital accumulation and thus leads to a higher steady state of the regional economy. This notion is verified by studies of Jureviciene and Pileckaite (2013) and Lolos (2009), who find the same effect on economic growth through increases in FDI and marginal product of capital.

1.3.2.2.2. Effect on regional TFP and labour productivity. Second and third channels of EU SF's effects on national and sub-national economies are the growth in regional total factor and labour productivity, in line with the findings of Beugelsdijk and Eijffinger (2005). By inducing economic convergence, EU SFs should stimulate these determinants of growth in the beneficiary regions, as a large portion of funding is allocated for training, education, and infrastructure for further promotion of long-term quality of labour force. By this, technological progress and average labour productivity are induced, leading to the accumulation of private investments (see Section 1.3.2.2.1) and boosting labour demand as well as long-run income *per capita* (Beugelsdijk & Eijffinger, 2005).

1.3.2.3. Spill-over effects. A number of authors address regional spill-overs as the channels through which EU cohesion policy induces economic growth (Andronova Vincelette & Vassileva, 2006; Bahr, 2008; Dall'erba & Fang, 2015; Lolos, 2009). Lolos

(2009) has concluded that the spatial income and unemployment effects are statistically significant. He argues that co-funding which increases the income in the beneficiary region induces spill-over to adjacent areas, and the process of spatial adjustments continues until a new pattern of steady state regional income is achieved (Dall'erba & Le Gallo, 2008, as cited in Lolos, 2009, p. 214). Inverse relationship between the level of unemployment and economic growth ("Okun's law") is incorporated into empirics of the unemployment spill-over, as dynamics in labour market of the beneficiary region adds to economic growth of neighbouring areas through the means of migration, commuting, and inter-regional trade (Lolos, 2009).

The channels described above establish the role that EU SFs play in promoting national and sub-national economic growth. The following section investigates the empirical variance in effectiveness of EU SFs absorption and introduces its possible determinants.

1.3.3. Effectiveness of EU SFs absorption. First, the variance in the effectiveness of EU SFs as depicted by academic literature is reviewed. Then, the concept of EU SFs absorption is examined, establishing that the managerial, institutional, and administrative conditions in MSs have a significant and pivotal influence on the funds' effectiveness.

1.3.3.1. Effectiveness of EU SFs as evaluated by academic literature.

1.3.3.1.1. Methodology employed to evaluate the effectiveness of EU SFs. The academic discussion on this topic is by no means scarce (e.g. see Bahr, 2008; Cancelo, Faina & Lopez-Rodriguez, 2009; Cardenete & Delgado, 2013; Christodoulakis & Kalyvitis, 1998; Churski, 2008; Dall'erba & Fang, 2015; Esposti & Bussoletti, 2008; Maynou, Saez, Kyriacou & Bacaria, 2014; Mohl & Hagen, 2010; Rodriguez-Pose & Fratesit, 2004); however, scholars have no unanimous opinion on how to recognise and objectively evaluate the impact that EU

SFs have on the national and regional economies. The model specifications (cross-sectional or panel), dependent variables (GDP *per capita*, labour or TF productivity), techniques of estimation (OLS, GMM or others), and data samples (national or sub-national dimensions, periods of observations) are different in each of the studies, leading to generally inconclusive results (Maynou, Saez, Kyriacou & Bacaria, 2014). The variety of approaches signals the vitality of academic discussion and calls for additional input of estimation.

1.3.3.1.2. Results obtained while evaluating the effectiveness of EU SFs. As illustrated by Table A1 (see Appendix A), a number of quantitative studies have been performed in an attempt to evaluate the impact that EU SFs have on economic performance of EU national and sub-national units.

A portion of research indicates significant and positive effects, e.g. Cancelo, Faina, and Lopez-Rodriguez (2009) find that the induced growth in GDP of Objective 1[8] region Galicia, Spain, is both short-term (7.1% growth in 2000-2006) and long-term (5.5% growth in 1994-2020). Results of other studies suggest that each euro spent on co-funding EU cohesion policy projects increased GDP of beneficiary economies by EUR 1.4 (Cardenete & Delgado, 2013) or, alternatively, added from 0.01% (with random-effects estimation) to 0.9% (with fixed-effects estimation) to the growth in regional output (Maynou, Saez, Kyriacou & Bacaria, 2014).

Second group of authors point out to the conditionalities of EU cohesion policy effectiveness. Rodriguez-Pose and Fratesit (2004) show that significant medium- to long-term results are only found for investments into education and human capital formation, while Bahr (2008) suggests that the scale and direction of the impact depends on sub-national

[8] Objective 1 regions, on the NUTS-2 regional classification basis, are the territories that had their GDP *per capita* in PPP less than 75% of the EU average (Cancelo, Faina & Lopez-Ridriguez, 2009). Separation of the sub-national economies into objectives was used for EU cohesion policy programming periods of 1989–1993, 1994-1999, and 2000-2006. Specific goal of co-funding projects in Objective 1 regions was to induce development and structural shifts of the less advanced territories (EUR-Lex, 2005).

autonomy of EU MSs (decentralized structures are more prone to absorb EU SFs effectively). Mohl and Hagen (2010) show that significant regional growth is achieved only in Objective 1 regions, illustrating that EU SFs are the most effective in promoting economic convergence but not in supporting structural changes (Objective 2) or modernising education and training systems (Objective 3) (EUR-Lex, 2005).

The final group of researchers conclude that EU cohesion policy produces insignificant or even negative results on national and sub-national economic growth. In their study on the effectiveness of EU SFs in Greece, Christodoulakis and Kalyvitis (1998) found that growth in GDP induced by EU SFs, depending on broader macroeconomic trends of national output, can vary between -1.4% and 2.6%. Esposti and Bussoletti (2008), having analysed the effect on both regional and national levels, found a significantly negative impact of co-funding in Germany, Greece, and Spain, albeit the impact in France was asserted to be positive.

High variance in the academic research findings suggests that the effectiveness of EU cohesion policy is linked to a number of national and regional conditionalities (Bachtler, Mendez & Oraze, 2014; Dall'erba & Fang, 2015; Ederveen, de Groot & Nahuis, 2006; Marzinotto, 2012, as cited in Maynou, Saez, Kyriacou & Bacaria, 2014, p. 10). This Thesis, adding to the existing academic endeavour, aims to examine the impact of the political conditionalities, namely government partisanship (see Chapter 2).

1.3.3.2. Absorption as the main determinant of the EU SFs effectiveness. As discussed in the previous sections, researchers use different methods and obtain varying results regarding the effectiveness of EU cohesion policy in promoting GDP growth. Yet the predominant approach in existing literature is to analyse EU SFs absorption in EU MSs and regions so as to assess the policy impact (Andronova Vincelette & Vassileva, 2006; Bachtler

& Ferry, 2015; Bocean, 2012; Crina, 2012; Cyburt, 2014; Jaliu & Radulescu, 2013; Jureviciene & Pileckaite, 2013; Matei & Savulescu, 2015). The aim of this section is to examine the concept of EU SFs absorption and to establish its main determinants.

1.3.3.2.1. Definition of EU SFs absorption. Definitions of EU SFs absorption vary between academic studies. The most concrete and straightforward conceptualization of this measure is provided by Andronova Vincelette and Vassileva (2006). The authors define absorption of EU SFs as the ratio of EU payment appropriations over payment commitments incurred during a period of time (p. 4). Jureviciene and Pileckaite (2013) challenged this definition, suggesting that the financial absorption rate alone does not indicate the efficiency and expediency of the payment appropriations (p. 3-4). The most extensive approach acknowledges EU SFs absorption as the extent to which MSs are able to employ the external funding in an effective way by exploiting the functionality of public agents and making necessary adjustments in the administrative level in an adequate period of time (Cace *et al*., 2009, as cited in Bocean, 2012, p. 128). In this Thesis, the rate of financial EU SFs absorption is employed as the most valid and objective approximation to the latter extensive approach (Bachtler & Ferry, 2015).

According to the conceptualization proposed by Wostner (2008) (Bocean, 2012; Crina, 2012), the capacity for successful and effective absorption of EU SFs in MSs depends on 3 broad factors, also identified as dimensions: macroeconomic, financial, and administrative-managerial (institutional). Each of them in turn influences the impact that EU SFs have on economic performance of MSs and their regions; they are further examined in the following sub-sections.

1.3.3.2.2. Macroeconomic dimension of EU SFs absorption. Macroeconomic determinant of EU SFs absorption accounts for a portion of EU cohesion policy transfers to

MSs in relation to their GDP (Wostner, 2008). The allocation of annual payment appropriations is regulated by the EU institutions[9] (European Parliament & Council of the European Union, 2013). It is fixed at 4% (Crina, 2012), as this is considered to be the maximum manageable scale of appropriations relative to the national output (Wostner, 2008). Returning to theoretical channels of the impact that EU SFs have on economic growth (see Section 1.3.2), the relatively more resources a MS receives from the funds, the more significant an effect they are eligible to achieve.

1.3.3.2.3. Financial dimension of EU SFs absorption. Based on the principle of co-financing in the implementation of EU SFs[10] (European Parliament & Council of the European Union, 2013), MSs and their regional units are obliged to add own resources to the funding of EU cohesion policy projects so as to guarantee the stake at and interest in their outcomes for local authorities and societies. The success in absorption of EU SFs thus depends on the ability of local economies to co-finance, i.e. to program, guarantee and collect local contributions to EU resources (Bocean, 2012; Crina, 2012; Wostner, 2008).

Financial determinant of EU SFs absorption can vary significantly among regional units. As Andronova Vincelette & Vassileva (2006) point out, local authorities play an important role in attracting private funding; therefore, their engagement is crucial for assuring successful outcomes. Beneficiaries themselves might not be able to exploit EU SFs effectively due to liquidity issues faced owing to the pre-financing clauses (Wostner, 2008). Therefore, the more ability beneficiaries have to supplement EU investments, the more significant impact the EU SFs have on these economic units.

1.3.3.2.4. Administrative-managerial dimension of EU SFs absorption. The final determinant of success in EU SFs absorption is the administrative-managerial capacity

[9] See Article 45 of Regulation (EU) No. 1303/2013.
[10] See Article 46 of Regulation (EU) No. 1303/2013.

of MSs and their regional authorities. A significant number of authors conclude that administrational and institutional framework employed to implement EU cohesion policy at national and local levels is vastly important for its effectiveness (Bachtler & Ferry, 2015; Bachtler, Mendez & Oraze, 2014; Bloom & Petrova, 2013; Cyburt, 2014; Ederveen, de Groot & Nahuis, 2006; Jaliu & Radulescu, 2013; Leonardi, 2006; Matei & Savulescu, 2015; Mezeniece & Rivza, 2011). Wostner (2008) put forth a definition of administrative-managerial EU SFs absorption capacity that summarizes the inferences of the aforementioned authors (see Figure 5).

Figure 5. Conceptualization of administrative-managerial EU SFs absorption capacity. Compiled by an author based on Wostner (2008).

Judging from the point of view proposed in relevant academic literature, the most significant component of EU SFs absorption and its effectiveness for national and regional economies is the ability and practices of national-central, regional, and local authorities to set reasonable plans of EU funds' implementation, schedules of programmes and individual projects in due time, to select the most beneficial actions and programmes, to

organize efficient joint initiatives among public and private partners, to comply with a significant amount of administrative and reporting requirements set by European Commission, and to thoroughly supervise the selected actions, avoiding inefficiencies and fraud (Wostner, 2008).

Administrative-managerial (also called institutional (Jaliu & Radulescu, 2015)) capacity of EU SFs absorption, being one of the most significant determinants of EU SFs effectiveness, indicates that the outcomes of the policy – economic growth in MSs and their sub-national units – do not depend solely on the economic factors discussed in Sections 1.2.1-1.2.3. Therefore, the study moves on to the investigation of administrative, managerial, and institutional side of EU MSs in light of one of the most distinguishing and significant factors of their governance – executive partisanship.

2. Government Partisanship

Chapter 1 of the Thesis was focused on the EU cohesion policy and its effect on economic growth of MSs. Chapter 2 aims to examine the independent variable of the research – government partisanship of individual MSs – and its impact on the dependent variables – direct impact on the absorption of EU SFs (Hypothesis 1) and an indirect impact on economic growth (Hypothesis 2, see Section 2.3.4).

National partisanship is currently at the margins of the debate concerning the implementation of EU policies (Bader & Bonotti, 2014). While the relevant literature relies mostly on functionalist and institutionalist approaches towards the analysis of Union initiatives (Kemmerling & Bodenstein, 2006), a potentially important variable of government partisanship is left underdeveloped in this context (Baggesen Klitgaard, Schumacher & Soentken, 2015; Blais, Blake & Dion, 1993; Kemmerling & Bodenstein, 2006). Therefore, this Thesis aims to contribute to elaborating on the proposed variable further.

The chapter is organized as follows: first, the independent variable is defined (see Section 2.1); then the review of its antecedents and variance in the EU is provided (see Section 2.2). Finally, government partisanship is examined as a determinant of the EU SFs effectiveness in Section 2.3. Hypotheses and the causal mechanism behind them are provided at the end of the chapter.

2.1. Definition and Characteristics of Government Partisanship

2.1.1. Definition of government partisanship. Government is an agent that possesses the monopoly of coercive power over all other agents in a society and territory of interest (Downs, 1957). In democratic countries, such as EU MSs, this agent is directly or indirectly appointed after popular periodic elections; the party which then becomes an

executive or forms the cabinet is the focus of this Thesis (for further operationalization of the independent variable, see Section 3.2.1.2). In line with the predominant approach in academic literature, composition of government cabinet, rather than the Parliament, is analysed (Blais, Blake & Dion, 1993), as it directly influences the administration and implementation of EU cohesion policy.

2.1.2. Dimensions of government partisanship. As proposed by Downs in his seminal work "An economic theory of political action in a democracy" (1957), attitudes of political parties can be scaled into and characterised in terms of left-right policy dimensions. This operationalization of positions towards redistributive, regulatory, social-political and other practices is employed by a number of academic studies (Alesina, Perotti & Tavares, 1998; Baggesen Klitgaard, Schumacher & Soentken, 2015; Blais, Blake & Dion, 1993; Cusack, 1997a; Cusack, 1997b; Eslava, 2006; Gwiazda, 2013, *et al.*). Most often, 2 dimensions of policy propositions – economic and social-political – are distinguished; they are conceptualized by a dual-axis political compass (Moore, Felton & Wright, 2010) (see Figure 6).

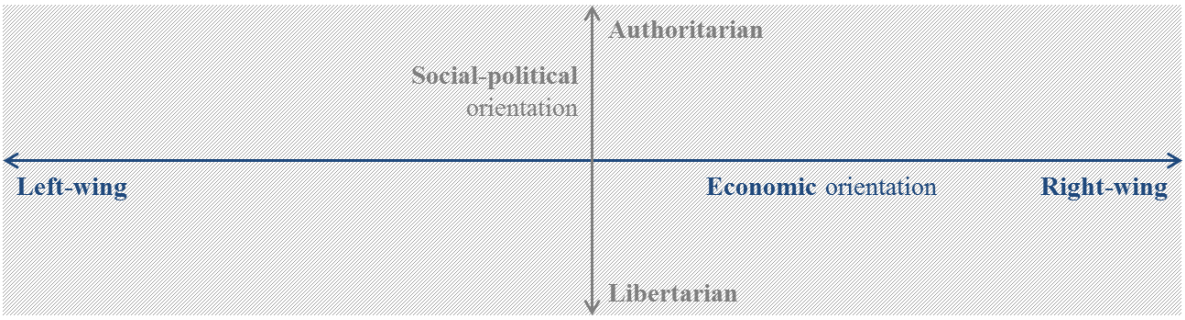


Figure 6. Conceptualization of a political compass. Compiled by an author based on Moore, Felton, and Wright (2012).

2.1.2.1. Social-political dimension. On the scale ranging from extreme fascism to anarchism (Moore, Felton & Wright, 2012), political parties can be characterised as

supporting either individual freedom or forms of communitarianism for solving social issues (i.e. preservation of traditional family ties, role of religion, minority rights, migration). Therefore, parties can be ascribed to either leaning towards more authoritarian or libertarian role of government in restricting or extending individual freedoms.

2.1.2.2. Economic dimension. Economic left-right dimension of parties revolves around the proposed level of government intervention in economic structures (Downs, 1957). Here, the main policy conflict concerns the role of government in decreasing income inequality, correcting market failures, and nationalizing industries (left-wing parties) versus relying on market mechanism and its rationality (right-wing parties) (Blais, Blake & Dion, 1993). Parties located on the left side of economic policy axis advocate for the Keynesian dual program for "full employment and equality" (Cusack, 1997b; Przeworski, 1985, p. 205, as cited in Blais, Blake & Dion, 1993, p. 43), which is pursued by manipulating aggregate demand through public spending or decreasing social inequality by expanding the welfare state. Right-wing governments, on the other hand, engage in more restrictive fiscal policies (Cusack, 1997a) and subscribe to the view that regulations of the economy, instead of fixing setbacks of the market, more often result in "government failures" (Blais, Blake & Dion, 1993). Therefore, the main cleavage on the economic policy axis of the political compass is the leading role of government versus less restricted functioning of markets.

As suggested by Kemmerling and Bodenstein (2006), preferences of the electorate might surpass the aforementioned conventional policy dimensions (i.e. in the context of the EU, parties can be aligned according to the dimension of Euroscepticism versus European federalism); however, the axes of social-political and economic attitudes serve as the basic reference points for partisanship (Downs, 1957). In this Thesis, the focus is on the economic axis, as redistributive and regulatory policies are analysed and incorporated into the causal mechanism of the examined relationship (see Sections 2.3.1 and 2.3.2).

2.1.3. Types of parties in EU MSs. Both of the aforementioned policy dimensions are important for the classification of parties; for example, distinctive social-political positions are held by nationalist or green parties (Nordsieck, 2016), while economic positions traditionally describe the moderate left and right wing. Owing to a great variety of parties in EU MSs, they are usually analysed in groups on a general left-right dimension, encompassing both axes in political compass (see Figure 6). Predominant typology of parties is illustrated in Figure 7.

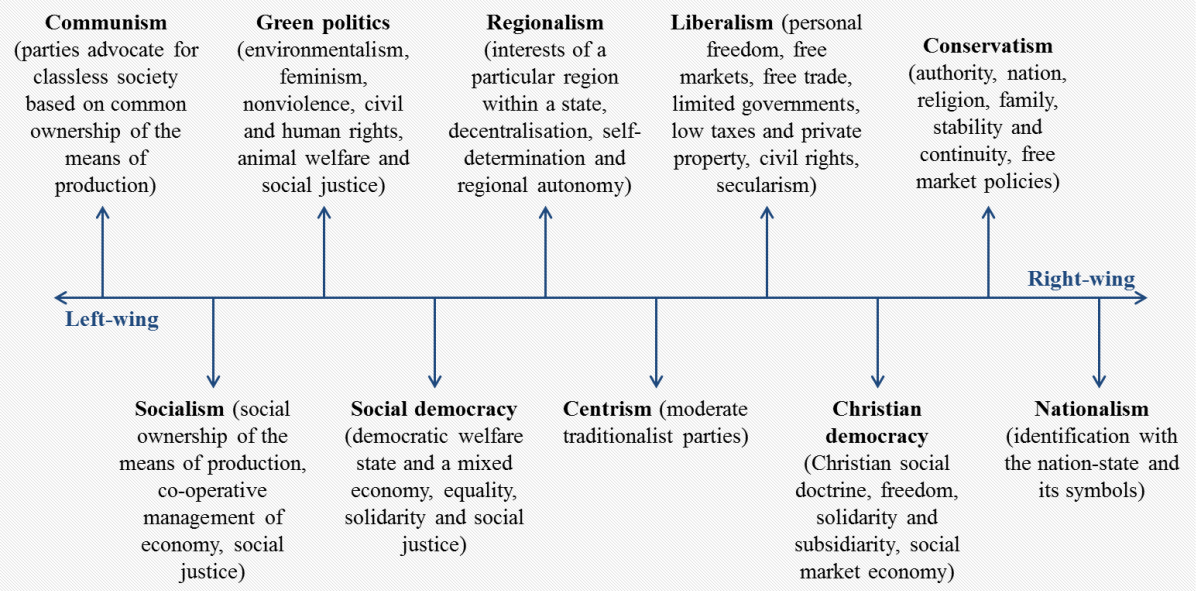


Figure 7. Types of parties in EU MSs and their allocation on the left-right policy spectrum. Compiled by an author based on Nordsieck (2016).

The propositions of political parties regarding economic policy (market regulation, redistribution) are the focal point of the political party analysis in this Thesis.

2.2. Antecedents and Variance of Government Partisanship

This section covers the prerequisites of government partisanship in the framework of its electorate and the voting rules, as well as the variance in the political

orientation of executive bodies in EU MSs, pointing out unexpected tendencies and disparities.

2.2.1. Antecedents of government partisanship.

2.2.1.1. Socioeconomic characteristics of the electorate. According to Downs (1957), rational individuals vote for political agents that advocate the policy propositions nearest to their ideal points and represent their personal interests most accurately. Yet, the realities of imperfect information create a demand for political attitudes to be transformed into more generic policy packages (Downs, 1957) that can be positioned onto the political compass (see Figure 6). These political ideologies tend to be preferred by corresponding groups in the electorate (Hibbs, 1977; Padgett, 2005; Schmidt, 2013), as specified in the following sub-sections.

2.2.1.1.1. Traditional socioeconomic cleavages in the electorate. The conventional cleavages, introduced by Lipset and Rokkan (1967), are the differences in the interests of owner-worker, secular-religious, urban-rural, and central-peripheral communities. More recently, the cleavages that are likely to determine the preference for each political ideology are income (social class), education, and ethnicity (Padgett, 2005; Schmidt, 2013).

On the economic policy axis, established as the focal point of the independent variable in this Thesis (see Section 3.2.1.2), left-wing parties are preferred by the electorate in lower income brackets and occupational status (Hibbs, 1997; Baggesen Klitgaard, Schumacher & Soentken, 2015). The expectations of this group of society are met by pursuing full employment (Hibbs, 1977) and a broader net of social services (welfare state provisions) (Blais, Blake & Dion, 1993; Clark, Golder & Golder, 2004). As Cusack (1997a) suggests, the electorate of left-wing parties can be characterised as “labour” in terms of their status in economic structure.

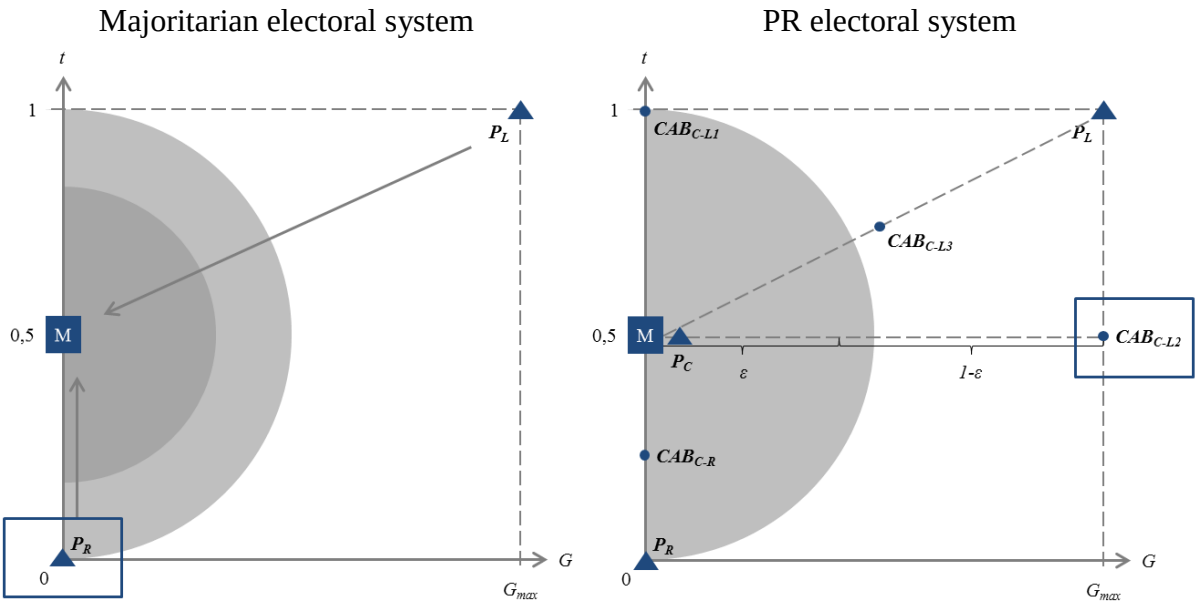
In contrast, the electorate of right-wing parties are distinguished as “capital” (Cusack, 1997b). Therefore, this group of voters puts emphasis on the importance of low inflation and does not prioritize the rate of unemployment (Hibbs, 1977). Traditionally, the supporters of right-wing parties are voters in the upper part of income distribution and of higher occupational status (Iversen & Soskice, 2006), who prefer welfare retrenchment (Padgett, 2005) and less restrictions on markets.

2.2.1.1.2. Break-down of traditional party alignments. An increasing stream of academic literature suggests that the traditional socioeconomic cleavages tend to lose their importance in determining voting decisions of current electorates. Baggesen Klitgaard, Schumacher, and Soentken (2015) suggest that predominant cleavages in modern democracies include sociocultural and post-industrial issues rather than socioeconomic classes (income, occupation), which might be especially relevant bearing in mind developed post-industrial economies of EU MSs. This line of debate is reinforced by the tendency to vote based only on economic performance during the incumbency of current governments (Kayser & Wlezien, 2011) or the support for single-issue parties (Schmidt, 2013).

Although the amount of academic endeavour dedicated to verifying these additional and unconventional antecedents of political preferences is increasing, this Thesis follows the traditional approach and relies on the predominant societal cleavages that determine the expectations of left- and right-wing party electorates. Antecedents of government partisanship are further analysed in terms of national electoral systems.

2.2.1.2. Electoral systems. As defined by Hagen (2005, p. 5), electoral system is the set of principles deciding the magnitude of voting districts, electoral formulas, and structure of ballots. These institutions are argued to have a significant impact on government formation and ascendant redistribution policies (Eslava, 2006; Hagen, 2005; Iversen &

Soskice, 2006; Iversen & Stephens, 2008). Executive cabinet formation under majoritarian (see left) and proportional representation (PR, see right) electoral systems is illustrated in Figure 8.



Note: *M* – median voter, *t* – basic taxation for the provision of public goods, *G* – progressive transfers, P_R – right-wing party, P_L – left-wing party, P_C – centrist party, *ε* – income transfers paid by the medium-income group of the electorate, *CAB* – coalition government.

Figure 8. Conceptualization of government formation under majoritarian and PR electoral systems. Compiled by an author based on Iversen and Soskice (2006).

As it was established by Downs (1957) and supported by other scholars (Blais, Blake & Dion, 1993; Cusack, 1997a; Gwiazda, 2013; Padgett, 2005), parties tend to form their policy positions so as to capture the preferences of the median voter (denoted as *M*, see Figure 9) and thus maximize the number of votes they get. In the model developed by Iversen and Soskice (2006), leaning towards the interests of the *M* results in a tendency to favour right-wing parties under the majoritarian electoral system; in contrast, under PR systems, more centre-left coalitions are formed and a higher rate of redistribution is introduced (see Figure 8).

Conclusions corresponding to the aforementioned government formation modelling were reached independently or acknowledged by a number of scholars (Eslava, 2006; Hagen, 2005; Iversen & Stephens, 2008). The following section reviews respective empirical variance of EU MSs' governments and its main tendencies.

2.2.2. Variance of government partisanship in the EU. Empirics of political orientation of governments in EU MSs expose two noteworthy tendencies. First, although 80% of EU MSs' electoral systems are PR (International Institute for Democracy and Electoral Assistance, 2016), nearly 55% of cabinets in 2012 were characterised as right-wing (Keefer, 2013). This indicates that the modelling of government formation proposed by Iversen and Soskice (2006) (see Section 2.2.1.2) does not seem to hold true in EU MSs.

Second, significant shifts in the political orientation of EU MSs' governments are evident in the illustrated period of 2000-2012 (see Figure 9).

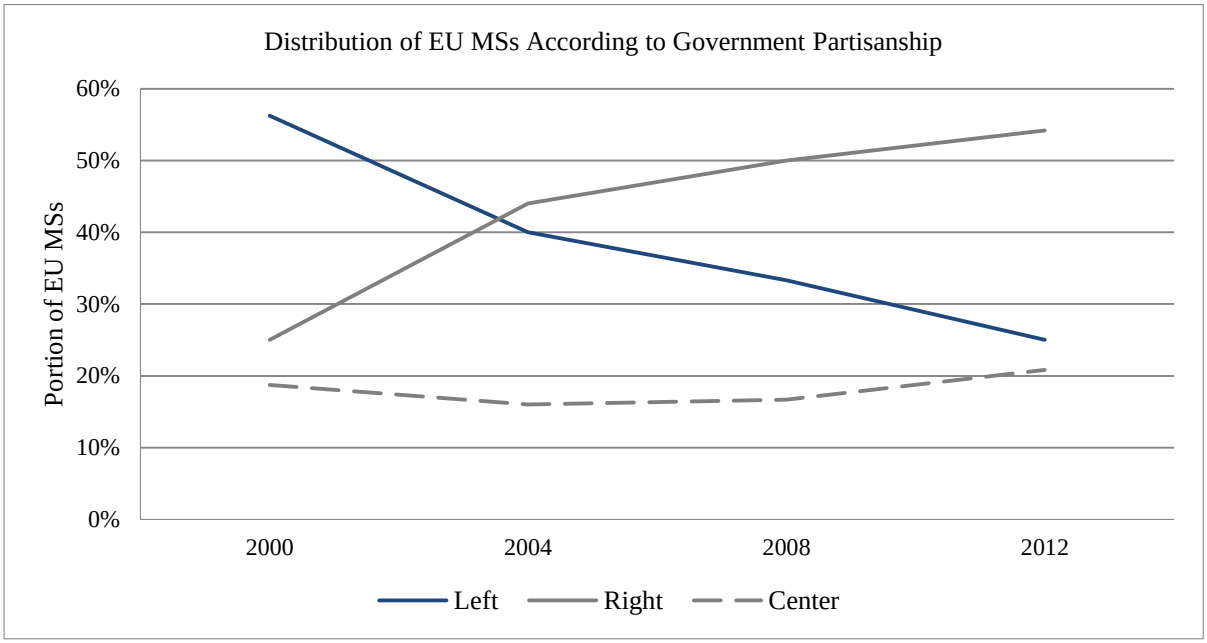


Figure 9. Distribution of EU MSs according to government partisanship. Compiled by an author, source: Keefer (2013).

The portion of left-wing governments has been decreasing significantly, whereas right-wing parties are incumbent more frequently. This tendency can be fuelled by increasingly popular right-wing positions on the social-political dimension (especially the stance on immigration), rise in self-employment, and decrease in the importance of traditional economic relations (e.g. trade union membership).

These tendencies once again indicate that government partisanship in EU MSs is a dynamic and intricate variable to analyse. The analysis is now continued by establishing its relationship with the effectiveness of EU SFs.

2.3. Government Partisanship as an Agent Influencing the Effectiveness of EU SFs

The objective of this section is to distinguish the channels through which government partisanship of EU MSs is likely to affect the absorption of EU SFs and the economic growth that follows. Once again, seminal work of Downs (1957) provides the framework for this analysis: it is argued that parties holding distinct positions on the economic left-right policy dimension have to offer different policy propositions so as to appeal to voters and in fact implement these policies to build public trust after the elections have passed. Therefore, political parties play a pivotal role on both fiscal policy and the regulatory institutional framework of governance, both of which are assumed to have an impact on the effectiveness of EU SFs absorption.

In this section, 3 interconnected assumptions that collectively form the causal mechanism underlying the hypotheses are derived. Assumption 1 regarding the influence of government partisanship on fiscal policy is deduced in Section 2.3.1, whereas Assumption 2 addressing partisanship effect on regulatory framework and institutions is derived in Section 2.3.2. Finally, Assumption 3 is added in Section 2.3.3, and the hypotheses are provided at the end of the section.

2.3.1. Impact of government partisanship on fiscal policy. Fiscal policy is the framework through which governments collect revenue (mostly in the form of taxes) and redistribute it in the form of public spending (Friedman, Hercowitz & Sidi, 2015, p. 26). Political ideology of executive parties influences both the types and the amount of government expenditure.

2.3.1.1. Types of government expenditure. Scholars define decisions of public spending allocation in democracies as demand-driven (Cusack, 1997a; Cusack, 1997b), meaning that the composition of the public budget is directly influenced by preferences of incumbent party constituencies (Blais, Blake & Dion, 1993; Clark, Golder & Golder, 2004). On the aggregate level, these ideological adjustments are not radical, as governments face political inertia (Rose 1984; Rose and Karran, 1987, as cited in Blais, Blake & Dion, 1993, p. 42) and have to account for the legacy of previous fiscal policy resolutions.

The most widely examined and manifested adjustments of public spending allocation are welfare provisions (Blais, Blake & Dion, 1993; Clark, Golder & Golder, 2004; Iversen & Stephens, 2008). Left-wing parties, as opposed to those positioned on the right side of the economic policy dimension, tend to increase the share of welfare expenditure (Blais, Blake & Dion, 1993) by raising the level of transfers from higher to lower trenches of income distribution. As Eslava (2006) argues, left-wing parties spend more on public investment projects and the government wage bill (the latter increase in expenditure is justified by bigger bureaucratic apparatus needed for implementation of fiscal and regulatory policies, addressed further in Section 2.3.2).

2.3.1.2. Amount of government expenditure. As the share of welfare provisions, public investments, and public wage bill increases in the total allocation of public expenditure under the left-wing incumbencies (Blais, Blake & Dion, 1993; Eslava, 2006), the

total amount of public spending tends to be influenced by partisanship as well. Authors of relevant literature measure the size of government as a share of public spending over GDP (Badum, Pribicevic & Deskar-Skrbisc, 2014; Blais, Blake & Dion, 1993; Libman, 2012), therefore, the arguments revolve around the question whether the left or the right, when incumbent, tends to form bigger governments.

According to abundant academic studies, left-wing parties tend to spend more, whereas the right engages in fiscal saving (Baggesen Klitgaard, Schumacher & Soentken, 2015; Blais, Blake & Dion, 1993; Cusack, 1997b; Eslava, 2006; Gwiazda, 2013; Kemmerling & Bodenstein, 2006). As Cusack (1997a) puts it, this approach is the "conventional wisdom" (p. 3) regarding partisan spending decisions, given the traditional preferences of party constituencies (Alestina, Perotti & Tavares, 1998; Cusack, 1997a). Yet, other groups of authors suggest that political orientation of incumbent parties does not influence fiscal policy due to converging policy propositions towards the ideal point of the median voter (Baggesen Klitgaard, Schumacher & Soentken, 2015; Clark, Golder & Golder, 2004), or the policy is mainly influenced by political business cycles and a tendency to create strategic deficits (Eslava, 2006). Considering the number of different approaches in academic literature, the "conventional wisdom" requires further examination.

2.3.1.2.1. Classical (pluralist) approach. As it was established in the seminal study "Political parties and macroeconomic policy" by Hibbs (1977), governments adjust their fiscal policy positions according to economic and subjective interests of their core constituencies (see Section 2.2.1.1). Here, the goals of the left and the right differ: left-wing parties aim for full employment, and right-wing parties seek low inflation (Cusack, 1997a; Hibbs, 1997). An inverse relationship between the level of unemployment and the rate of inflation (the "Phillip's curve") obliges policy makers to establish different trade-offs depending on their political orientation (Hibbs, 1997).

In sum, left-wing parties, mainly targeting their constituencies in lower income and occupational status groups of society, aim for lower unemployment and spend more public resources to obtain it (Alestina, Perotti & Tavares, 1998; Baggesen Klitgaard, Schumacher & Soentken, 2015; Blais, Blake & Dion, 1993; Cusack, 1997a; Cusack, 1997b; Eslava, 2006; Gwiazda, 2013). Larger budget deficits, expansionary fiscal practices, and more progressive taxation of capital are associated with these extensive welfare provisions provided by the left (Cusack, 1997a).

2.3.1.2.2. Criticism of the classical approach. Empirical evidence regarding the "Hibbsian" approach towards partisan fiscal policies is mixed (Clark, Golder & Golder, 2004). There are 2 main arguments against the proposition that incumbency of the left universally leads to higher public spending. First group of scholars emphasize increasing global financial interdependence, especially relevant in the EU and EMU (Clark, Golder & Golder, 2004). Fiscal constraints provided in Maastricht Treaty have prevented parties in EU MSs from offering distinct and unrestrained fiscal choices to their constituencies (Baggesen Klitgaard, Schumacher & Soentken, 2015). The proponents of this view also point out that global economic interdependence has reduced the level of welfare spending (Ha, 2007) based on an increase in regional efficiencies (Cusack, 1997a).

The second group of studies suggest that fiscal policy positions of parties on both sides of the spectrum are mainly influenced by macroeconomic conditions (Carlsen, 1997, as cited in Cusack, 1997a, p. 2). Left-wing parties tend to follow a counter-cyclical approach by stimulating aggregate demand when it slackens and contracting it in times of its surges. In contrast, right-wing parties perceive this policy as interfering with efficient market mechanisms and, thus, engage in pro-cyclical fiscal policy (contract fiscal spending in times of slackening aggregate demand and increasing level of unemployment) (Carlsen, 1997, as cited in Cusack, 1997a, p. 2).

In this Thesis, the classic pluralist approach towards partisan propositions on fiscal policy is employed, as it is acknowledged by a large number of scholars both formerly and in the recent decades (Alestina, Perotti & Tavares, 1998; Baggesen Klitgaard, Schumacher & Soentken, 2015; Blais, Blake & Dion, 1993; Cusack, 1997a; Cusack, 1997b; Eslava, 2006; Gwiazda, 2013; Hibbs, 1977). Therefore, Assumption 1 is derived.

2.3.1.3. Derivation of Assumption 1. Left-wing parties, when incumbent, engage in higher public spending (Blais, Blake & Dion, 1993; Cusack, 1997a; Gwiazda, 2013; Hibbs, 1977; Kemmerling & Bodenstein, 2006); therefore, in order to implement more fiscal policy provisions, they form more complex bureaucracies.

2.3.2. Impact of government partisanship on the institutional framework. Good quality of national and regional institutional administration is considered to be crucial for effective absorption of EU SFs (see Section 1.3.3.2.4) (Bachtler & Ferry, 2015; Bachtler, Mendez & Oraze, 2014; Bloom & Petrova, 2013; Cyburt, 2014; Ederveen, de Groot & Nahuis, 2006; Jaliu & Radulescu, 2013; Leonardi, 2006; Matei & Savulescu, 2015; Mezeniece & Rivza, 2011). As explicated in the following sub-sections, government partisanship plays a significant role in the formation of this vastly important bureaucratic apparatus.

2.3.2.1. Partisanship and the amount of regulations. As proposed by Cusack (1997b) as well as by Blais, Blake, and Dion (1993), left-wing governments advocate for a strong regulatory state and intervention into the economy by correcting market failures, whereas right-wing governments see the state rather as an enterprise and propose that regulations result in "government failures" (Blais, Blake & Dion, 1993, p. 43). Therefore, cabinets on the distinct sides of the policy spectrum either more heavily regulate the economy using public spending to equalize uneven and unfair situations in the society, or aim to

minimize governmental role and let market shape the outcomes by its own rational mechanisms (Cusack, 1997b). The position of governments on this spectrum determines the amount and complexity of regulations being issued, as well as the related bureaucracy needed for their oversight. In sum, left-wing governments engage in more economic regulations and, thus, require more bureaucracy to implement them.

2.3.2.2. Partisanship and the size and complexity of bureaucracy. Differently from the aforementioned measurement of government size in terms of public spending (Badum, Pribicevic & Deskar-Skrbisc, 2014; Blais, Blake & Dion, 1993; Libman, 2012), a smaller group of scholars estimate it by the number of public officials employed (Blais, Blake & Dion, 1993; Libman, 2012). It signals that the number of individual bureaucrats has a direct impact on the complexity of government organizations, which is especially relevant in the EU SFs absorption process which requires speed, transparency, clarity, and efficiency (Crina, 2012).

Government partisanship, as suggested in the previous sub-section, directly affects the size of bureaucracies through its policy propositions. The concept of bottom-up pressures towards the growth and size of governments, as proposed by Ungureanu and Iancu (2012), suggests that the electorate pre-determines the scale of bureaucracies by voting for either party on the economic policy spectrum. In turn, the government adjusts its size relative to the amount of public goods to provide, externalities to eliminate, and the amount of income and wealth to redistribute, as required by the constituents. Other authors contribute to this concept by noting that parties possess significant power over formation of bureaucratic agencies themselves, which is the so-called “quiet politics” (Baggesen Klitgaard, Schumacher & Soentken, 2015) of politicization in public agencies. The existence of path dependency (Ungureanu & Iancu, 2012) is important here as well, since the increase in the number of bureaucrats and regulatory agencies is not swift and easy to eliminate in a short period of

time. This observation is addressed in Chapter 3 by introducing time lags into the model of government partisanship effect on the EU SFs absorption process.

Finally, political ideology influences the size and complexity of bureaucracies directly by preference towards public employment. Academic literature concludes that right-wing parties advocate for a smaller number of public servants (Bolleyer, van Spanje & Wilson, 2012). Bureaucrats themselves tend to support left-wing governments (Brown-John, 1967), which, once incumbent, are prone to extend the number of government employees.

2.3.2.3. Derivation of Assumption 2. Left-wing governments, while attempting to regulate the economy (Baggesen Klitgaard, Schumacher & Soentken, 2015; Blais, Blake & Dion, 1993; Cusack, 1997b), require bigger and more complex bureaucratic agents for implementation and control of these policies.

2.3.3. Causal mechanism behind the hypotheses of the Thesis. This section aims to summarize the assumptions derived earlier (see Sections 2.3.1 and 2.3.2) as well as to complete the proposed causal mechanism through which government partisanship affects the absorption of EU SFs and, correspondingly, economic growth.

2.3.3.1. Assumptions 1 and 2. First, left-wing governments form bigger bureaucracies through higher spending (Blais, Blake & Dion, 1993; Cusack, 1997a; Gwiazda, 2013; Hibbs, 1977; Kemmerling & Bodenstein, 2006) (Assumption 1). Second, left-wing governments require more complex public agencies to implement and control regulations that they introduce to the economy (Baggesen Klitgaard, Schumacher & Soentken, 2015; Blais, Blake & Dion, 1993; Cusack, 1997b) (Assumption 2).

These bigger and more complex bureaucracies formed under the left-wing governments become intermediate agents in the EU SFs absorption (Bachtler & Ferry, 2015).

2.3.3.2. Derivation of Assumption 3. The aforementioned intermediate bureaucratic agents affect the process of EU SFs absorption through 2 parallel channels.

2.3.3.2.1. Rent-seeking. The principle of subsidiarity (European Council & European Commission, 2012) with the multi-level governance of EU cohesion policy (Armstrong & Wells, 2006; Bachtler & Ferry, 2015; Boland, 1999; Kemmerling & Bodenstein, 2006; Leonardi, 2006) imply local decision making and empowerment of national and sub-national authorities. As acknowledged by Bloom and Petrova (2013), the European Commission only sets the goals and broad outlines for the policy implementation, whereas decision making and executive powers are confined to the MSs. Local bureaucracies have significant residual powers in the situation reminiscent of the principal-agent problem (Kemmerling & Bodenstein, 2006). For example, Bloom and Petrova (2013) concluded that "pork-barrel" politics do exist in the allocation of EU SFs.

Here, the first axiom of Downs (1957) has to be revisited, suggesting that politicians and government officials "seek office solely in order to enjoy the income, prestige, and power" (p. 137). Therefore, bearing in mind that the EU SFs resources can be either spent on economic growth-inducing projects or on rent-seeking (Ederveen, de Groot & Nahuis, 2006), the intermediate political and bureaucratic agents are expected to appropriate a portion of assistance for their personal benefit. This approach, designated as the "grabbing hand" of the bureaucracy, is empirically confirmed by Libman (2012).

In short, left-wing governments with more intermediate bureaucratic agents form more opportunities for rent-seeking (Ederveen, de Groot & Nahuis, 2006; Katsaitis & Doulos, 2009; Libman, 2012). A relatively larger part of the absorbed EU funding is then spent to obtain private benefits instead of being used to increase the productivity of capital and induce economic growth.

2.3.3.2.2. Burdening the absorption process. The second channel through which a higher number of intermediate bureaucratic agents impede effective EU SFs absorption and respective economic growth is the burdening of the process time- and resource-wise. Crina (2012) concluded that formation of intermediate and subsidiary agencies, together with the associated issues (lack of transparency, delays in project evaluation, unclear conditions and documentation (red tape), cumbersome control and audit practices, lack of experience in the personnel and their low project management culture) pose the main threats that lead the potential beneficiaries of EU SFs to abstain from applying for financial assistance and the existent beneficiaries to reach lower levels of financial absorption. This tendency is summed up by Horvat (2004, as cited in Bocean, 2012, p. 128), who suggested the "golden rule" of EU SFs absorption: the smaller the number of agencies involved in EU SFs implementation, the more effective the absorption process is.

Assumptions 1, 2, and 3 are joined into a single causal mechanism, as illustrated in Figure 10.

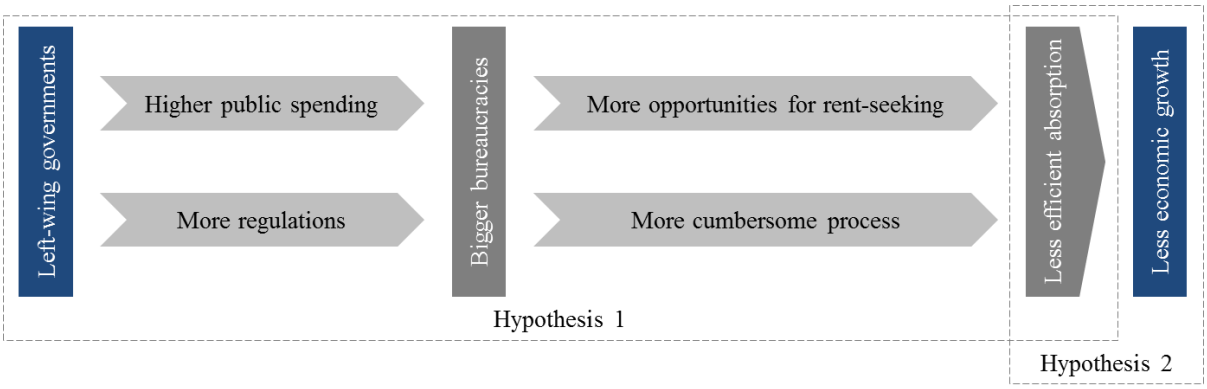


Figure 10. Conceptualization of the causal mechanism behind the hypotheses. Compiled by an author.

Relating the independent variable of government partisanship through a more complex bureaucratic apparatus to the absorption of EU SFs and, respectively, to economic growth (see Figure 10), the hypotheses are formed as follows.

2.3.4. Hypotheses of the Thesis.

H_1: Left-wing governments are likely to absorb EU SFs less effectively than right-wing governments.

H_2: Less effective absorption of EU SFs is likely to produce less economic growth than more effective absorption of EU SFs.

After the analysis of relevant academic literature and relating the dependent and independent variables of the study via testable hypotheses (Chapter 1 and Chapter 2), the Thesis now continues by empirically testing the H_1 and H_2 in Chapter 3.

3. Empirical Research

After the review of academic literature on the relationships among government partisanship, the absorption of EU SFs, and economic growth, these hypothesized links are now tested empirically. The aim of this chapter is to verify the validity of the hypotheses proposed in Section 2.3.4. First, data sample and employed variables are described in Sections 3.1-3.2. The analysis is then continued with 2 model specifications (after their dependent variables, models are denoted as Model 1: Absorption and Model 2: Economic growth), data analysis and interpretation of results. Limitations and recommendations for further research on this topic are presented at the end of the chapter.

3.1. Data Sample

The compiled data sample includes 27 EU MSs[11]. Annual observations for each variable extend from 1990 (following the first recognition of the absorption figures in EU cohesion policy reports) to 2013 (end of EU MFF 2007-2013). This results in 648[12] observations for Model 1: Absorption and Model 2: Economic growth each. Attention has to be drawn to the fact that the panel used for the specification of both models is not balanced: 6.75% of total data values are missing. The main reason for this imbalance is the nature of EU development in 1990-2013: 15 out of 28 MSs joined the EU after 1990. This limitation of the compiled data sample is acknowledged during the interpretation of empirical findings.

[11] Data sample does not include Croatia which joined the EU in 2013. The commitments of EU SFs for this MS were not programmed in the period of 2007-2013; therefore, the rate of the funds' absorption could not been calculated.

[12] 27 MSs × 24 years, excluding the data values of the control variables.

3.2. Variables of the Study

3.2.1. Model 1: Absorption.

3.2.1.1. Dependent variable: the rate of EU SFs absorption. The rate of EU SFs' absorption for each MS is a ratio of the SF commitments to the factual payments (financial transactions), made annually. The value of this ratio indicates which part of the programmed allocation was not absorbed by a MS. The range extends from 0 to > 1, in case a MS has received more funding than was planned during the programming stage. Data values needed for the calculation of the absorption rate were extracted from European Commission annual reports on the financial implementation of EU SFs (Commission of the European Communities, 1992-2007) and online financial reports (European Commission, 2016d); they extend from 1992 to 2013.

It has to be noted that, first, the values do not take into account the amount of SFs that was returned due to inappropriate spending. Second, only financial absorption rate might not be a sufficient indicator of efficiency and expediency of EU support (Jureviciene & Pileckaite, 2013). Finally, the documented values include different EU funds during the programming periods of 1991-2013[13]. However, the measure employed in this Thesis is the most appropriate proxy, as it is the only available public indicator of the national performance in absorbing EU SFs (Bachtler & Ferry, 2015).

3.2.1.2. Independent variable: government partisanship. In order to measure the independent variable of Model 1: Absorption, Chapel Hill expert survey scores were employed (Ray, 1999). This evaluation represents the position of a given party's ideology concerning economic issues, where the left advocates for an active government role in the

[13] Data values from 1991 to 1993 include ERDF, ESF, and EAGGF (European Agricultural Guidance and Guarantee Fund); 1994-2006: the former and FIFG (Financial Instrument for Fisheries Guidance); 2007-2013: ERDF, ESF, and CF (Cohesion Fund).

economy, while the right proposes privatization, a decrease in taxes, regulation, and spending, reduced economic role of government, and a smaller welfare state (Ray, 1999). The scale extends from 0 (extreme left) to 10 (extreme right), where 5 represents the center position.

In this Thesis, political party of an incumbent executive (Prime minister (PM), Federal chancellor, President of the Government, etc.) is used to denote government partisanship. According to the "golden rule", which states that PM and Finance minister (pivotal in the context of this analysis) are usually members of the same political party (Hallerberg, Strauch & Hagen, 2004), the partisanship of a PM is a valid proxy for the stance of the whole executive cabinet. It has to be noted that this variable does not account for ideological stances of coalition partners from different political parties. Additionally, since the score is a result of an expert survey, it indicates only the ideological position of the parties, leaving the evaluation of their actions when incumbent unrepresented. However, using the scores of Chapel Hill expert survey is the most proper measure in the context of this Thesis, as the government cabinet scores in other databases (e.g. Keefer, 2012) either lack sensitivity[14] or rely only on the party manifestos published prior to elections (Volkens *et al.*, 2015).

So as to account for the time needed to fully adjust the bureaucratic apparatus to the policies of the newly elected cabinets, a time lag of 2 years is assigned to the variable. This period of time was chosen based on the laggard changes in bureaucratic agencies and departments, as recognized by Livermore and Revesz (2012) and MacCarthaigh (2012). The anticipated relationship with the dependent variable is positive (the more left-wing the executive party is, the less EU SFs the corresponding MS is expected to absorb).

[14] Only 3 possible political ideology positions are available at Database of Political Institutions 2012 (Keefer, 2012).

3.2.1.3. Control variables.

3.2.1.3.1. GDP per capita. Gross Domestic Product divided by population in a given midyear was extracted from World Bank database (World Bank, 2016a) and measured in current USD. GDP includes all gross value created by a country's residents in the national economy (product taxes added and subsidies not included in the price of the products subtracted). Data values extend from 1991 to 2013.

As it was noted in Section 1.3.3.2.1, the EU SFs absorption is determined on 3 dimensions: managerial-administrative, macroeconomic, and financial (Bocean, 2012; Crina, 2012). The latter two are represented by adding GDP *per capita* into the equation: the more resources a MS has, the more projects it is able to co-fund. On the same note, as a MS can be granted only up to 4% of its GDP, the more resources it has, the more, in the absolute terms, it is able to absorb (Bocean, 2012; Crina, 2012). Therefore, the anticipated relationship between GDP *per capita* and the rate of EU SFs absorption is positive.

3.2.1.3.2. Number of years receiving EU SFs. Time since the formalization of structural funds in 1986 (Pinho, Varum & Antunes, 2015b) or joining the EU for individual MSs is added as a control variable and measured in the number of years (extends from 0 to 28). It represents the number of years that a MS has been receiving the assistance of EU SFs. According to the convergence hypothesis (see Section 1.1.3), EU MSs are expected to reach a steady state of economic development; therefore, SFs should be absorbed more efficiently during the first years of assistance, but gradually decreasing afterwards (the anticipated relationship is therefore negative). Additionally, the variable performs the role of time function in the equation.

3.2.1.3.3. Membership in the EU. A dummy variable (1 for being an EU MS in a given year and 0 for not) forms an interacting variable with GDP *per capita* in the time

period *t* and with government partisanship in *t-2*. The usage of this variable results in accounting for EU MSs only, leaving non-EU MSs out of the analytical scope.

3.2.2. Model 2: Economic growth.

3.2.2.1. Dependent variable: economic growth. Annual growth in GDP (see Section 3.2.1.3.1), measured in percentage points and extracted from World Bank database (World Bank, 2016b), represents the dependent variable of Model 2: Economic growth. Data values cover the growth from 1991 to 2013 and indicate the average rate of GDP increase/decrease at market prices measured in local currencies. As already noted in Section 1.1.1, GDP is argued not to cover the whole set of dimensions in national economic development (Cioban, 2014; Lequiller & Blades, 2004); yet it is the most frequently employed proxy (Rynck & McAleavey, 2001).

3.2.2.2. Independent variable: the rate of EU SFs absorption. The rate of EU SFs absorption is the ratio of payment commitments to the factual financial transactions during 1 year (for further explanation, see Section 3.2.1.1). In Model 2: Economic growth, data values of the absorption rate are lagged by 4 years, following the conclusions of Mohl and Hagen (2009). The authors suggest that the effect of EU funding takes time (up to 4 years) to fully result in economic growth. As a considerable number of states have joined the EU in the time frame of the analysis (1990-2013), the Thesis employs the maximum period of time specified by scholars owing to the fact that the first investments into the regions of new MSs are usually the most significant in terms of scale and complexity. In line with the argumentation provided in Section 1.3, the anticipated relationship between the absorption rate and economic growth is positive.

3.2.2.3. Control variables. Control variables for Model 2: Economic growth form the neoclassical growth model described in Section 1.2.1. Exogenous modelling of

economic growth is applied in this Thesis based on the findings of literature review presented in Chapter 1. According to the meta-analysis of studies on EU SFs effectiveness conducted by Dall'erba and Fang (2015), empirical literature in this field employs the neoclassical growth model "almost exclusively" (p. 3). This can be also illustrated by reviewed studies of Bahr (2008), Esposti and Bussoletti (2008), Mohl and Hagen (2015), and Pinho, Varum, and Antunes (2015b). The Model 2: Economic growth aims to continue the scholarly conversation on EU SFs effectiveness using the corresponding methodology.

In addition, the choice of neoclassical modelling of economic growth can be supported by 2 drawbacks of the endogenous method, as concluded by McCallum (1996). First, the steady state growth, foreseen by endogenous models, requires continuous increase in human capital; yet, this variable cannot be accumulated *per se* (it is not transferable and it is limited to a lifetime of human beings). Second, endogenous growth models require highly specific values of parameters that reach out of the scope of this study. These 2 shortcomings and the tendency of related academic literature to employ exogenous modelling leads to the choice of neoclassical construct for the Model 2: Economic growth.

Variables included in the equation are, therefore, the initial GDP, the rate of domestic savings, the rate of human capital accumulation, the rate of population growth, the rate of technological progress (as presented in Section 1.2.1), and the number of years the country has been receiving EU SFs as well as the membership in the EU.

3.2.2.3.1. Initial GDP. Following the framework of Mohl and Hagen (2010), as well as Pinho, Varum, and Antunes (2015a), the initial GDP *per capita* (for further description, see Section 3.2.1.3.1) is the measure of GDP during the previous year ($t - 1$). Based on the convergence hypothesis (see Section 1.1.3), the variable is expected to hold a negative relationship with the rate of economic growth.

3.2.2.3.2. Rate of domestic savings. Gross domestic savings in 1991-2013 were extracted from the World Bank database (World Bank, 2016c). This indicator measures the difference between total GDP and consumption expenditure in individual EU MSs. Since it represents the amount of resources set aside for the capital accumulation and future economic growth, the rate of domestic savings is lagged by 1 year (Bahr, 2008; Pinho, Varum & Antunes, 2015a) and the anticipated link to the dependent variable is positive (Bahr, 2008; Mohl & Hagen, 2010; Pinho, Varum & Antunes, 2015a).

3.2.2.3.3. Rate of human capital accumulation. In order to measure the extent to which human capital accumulates in a given economy, gross ratio of enrolment to tertiary education was used (following the framework of Esposti and Bussoletti (2008), as well as Pinho, Varum, and Antunes (2015a)). A World Bank measure (World Bank, 2016d) for both genders in 1991-2013 indicates the portion of population enrolled in tertiary education (ISCED levels 5-8) 5 years after leaving the secondary school. Since human capital can be used to increase marginal productivity of capital (e.g. the infrastructure created by EU SFs), the anticipated relationship with national economic growth is positive (Bahr, 2008; Mohl & Hagen, 2010). In line with the study of Pinho, Varum, and Antunes (2015a), the variable is lagged by 1 year.

3.2.2.3.4. Rate of population growth. Population growth expressed in percentage points (midyear change from *t-1* to *t*) has been extracted from the World Bank database (World Bank, 2016e) and accounts for the growth in 1991-2013. The indicator covers the *de facto* population of EU MSs, including all national residents except for refugees. Academic literature does not reach uniform conclusions on the direction of the relationship between population and economic growth. An increase in population puts pressure on limited resources and reduces capital formation. On the other hand, it creates economies of scale and opportunities for specialization (Easterlin, 1967). In this Thesis, the

anticipated impact of population growth on the dependent variable is negative, following the findings of the reviewed studies (Bahr, 2008; Mohl & Hagen, 2010; Pinho, Varum & Antunes, 2015a).

3.2.2.3.5. Rate of technological progress. In order to capture the exogenous technological progress of an economy, the number of patent applications per 1 000 residents was extracted from World Bank database (World Bank, 2016f) for 1991-2013 (similar to Pinho, Varum & Antunes, 2015a). These applications include requests filled in following the Patent Cooperation Treaty or national patent office procedures so as to receive exclusive rights for an innovation (new way of production or a technical solution) created.

The limitation of this variable is that it only acts as a rough proxy for the frontier of technological progress induced in a national economy. On the other hand, according to Growiec (2010), measurement of technological progress can vary widely among individual subjects of the analysis; there are no universal indices reflecting this development. Additionally, a commonly employed measure of technological progress and depreciation ($a + \delta$) is fixed across time and regions at the level of 0.05 (Bahr, 2008; Esposti & Bussoletti, 2008; Mohl & Hagen, 2010). This simplification is not included in this Thesis in order to obtain as reasonable empirical estimates of the variable as possible. The rate of technological progress is lagged by 1 year (Mohl & Hagen, 2010; Pinho, Varum & Antunes, 2015a). Through the channels described in Section 1.3.2, its anticipated effect on economic growth is positive.

3.2.2.3.6. Membership in the EU. A dummy variable (1 for being an EU MS in a given year and 0 for not) forms an interacting variable with the initial GDP, the rate of domestic savings, the rate of human capital accumulation, the rate of population growth, and the rate of technological progress in order to account only for EU MSs.

Descriptive statistics that define and summarize the variables of both Model 1: Absorption and Model 2: Economic growth quantitatively are presented in Appendix B.

3.3. Model Specification

The described variables are connected into 2 econometric equations for Model 1: Absorption and Model 2: Economic growth as follows.

3.3.1. Regression equation for Model 1: Absorption.

$$abs_t = \beta_0 + \beta_1 \times MS_t \times GP_{t-2} + \beta_2 \times MS_t \times GDPpc_t + \beta_3 \times SFyear_t + \varepsilon,$$

abs_t = rate of EU SFs absorption, unit: ratio from 0 to > 1,

MS_t = membership in the EU, dummy variable [0, 1],

GP_{t-2} = government partisanship, unit: score [0, 10], anticipated $\beta_1 > 0$,

$GDPpc_t$ = GDP *per capita*, unit: current USD, anticipated $\beta_2 > 0$,

$SFyear_t$ = number of years receiving EU SFs, unit: years, anticipated $\beta_3 < 0$,

ε = error term.

3.3.2. Regression equation for Model 2: Economic growth.

$$Y_t = \beta_0 + \beta_1 \times abs_{t-4} + \beta_2 \times MS_t \times GDPin_t + \beta_3 \times MS_t \times s_{t-1} + \beta_4 \times MS_t \times edu_{t-1} + \beta_5 \times MS_t \times n_t + \beta_6 \times MS_t \times a_{t-1} + \varepsilon,$$

Y_t = economic growth, unit: percentage points,

abs_{t-4} = rate of EU SFs absorption, unit: ratio from 0 to > 1, anticipated $\beta_1 > 0$,

MS_t = membership in the EU, dummy variable [0, 1],

$GDPin_t$ = initial GDP, unit: current USD, anticipated $\beta_2 < 0$,

s_{t-1} = rate of domestic savings, unit: percentage points, anticipated $\beta_3 > 0$,

edu_{t-1} = rate of human capital accumulation, unit: percentage points, anticipated $\beta_4 > 0$,

n_t = rate of population growth, unit: percentage points, anticipated $\beta_5 < 0$,

a_{t-1} = rate of technological progress, unit: units of registered patents per 1 000 residents, anticipated $\beta_6 > 0$,

ε = error term.

3.4. Data Analysis

For the analysis of the aforementioned dataset in testing the hypotheses proposed in Section 2.3.4, *Gretl* software is used. The results for each model are presented separately, including panel diagnostics, comparison of the models, and interpretation of findings.

3.4.1. Model 1: Absorption.

3.4.1.1. Panel diagnostics. In order to determine the most appropriate model and detect possible limitations of data interpretation, panel diagnostics (on normality of variables, OLS panel diagnostics, heteroscedasticity, collinearity, and distribution of residuals) is performed.

3.4.1.1.1. Normality of the variables. None of the independent, dependent, and control variables employed in Model 1: Absorption are normally distributed (see Appendix C). Doornik-Hansen, Shapiro-Wilk W, Lilliefors, and Jarque-Bera tests conclude that *GDPpc*, *SFyear*, *GP*, and *abs* return *p*-values < 0.05, rejecting the null hypothesis of normality. Common transformations (logarithms and squares of the data values) for the variables were applied, yet they did not change the results of normality tests. Therefore, original values are used in the following hypothesis testing.

3.4.1.1.2. OLS panel diagnostics. Joint significance of differing group means, Breusch-Pagan test, and Hausman test are performed in order to choose the most appropriate model form (fixed/random-effects). Panel diagnostics for the primary OLS return low *p*-

values for all tests (see Appendix D), suggesting that the fixed-effects approach is the most suitable for Model 1: Absorption.

3.4.1.1.3. Heteroscedasticity, collinearity, and distribution of residuals. For detection of heteroscedasticity, distribution free Wald test was performed, returning *p*-value = 0 and suggesting non-constant unit variance and possible bias in standard errors (see Appendix E). This issue might be addressed in 2 ways: first, weighted least squares model (WLS) can be constructed. WLS weights all units under analysis in terms of their error variance and reduces heteroscedasticity. Yet, this model also introduces bias towards EU MSs that have the least error variance; therefore, it is included into the model comparison (see Table 1) only in order to verify the direction and significance of coefficient estimates. Heteroscedasticity is addressed by the second method: adjusting the fixed-effects panel by Arellano robust standard errors (RSE). This option aims to partially decrease the probability of the estimates being biased by reducing the impact of heteroscedasticity. However, more cautious interpretation of final estimates is needed.

Bias of estimates might also occur in case of interdependence among explanatory variables of the model, which is detected by collinearity tests. Variance inflation factors (VIFs) quantify this problem by OLS regression analysis. As presented in Appendix E, VIFs indicate no collinearity problem for Model 1: Absorption.

Finally, inaccuracy of findings might be caused by abnormal distribution of residuals. In the case of the fixed-effects Model 1: Absorption, H_0 of normal distribution of residuals is rejected by *p*-value of 0 (see Appendix E) and the best linear unbiased estimator is not met. This issue in the possible inaccuracy of the findings is also addressed by RSE and added to the limitations of this Thesis.

3.4.1.2. Comparison of the models. In order to verify the direction and significance of the estimated relationships in the fixed-effects Model 1: Absorption, results of different econometric models are compared in this section.

3.4.1.2.1. Comparison of the models in levels. Table 1 presents the results of Model 1: Absorption obtained in pooled OLS, fixed-effect, random-effect, and weighted least squares estimations.

Table 1

Comparison of models in levels. Dependent variable: rate of EU SFs absorption

	lvl. pooled OLS	**lvl. fixed-effects**	**lvl. random-effects**	**lvl. weighted least squares**
const.	0.280911 (0.0881810) [0.0016]***	0.0591174 (0.111659) [0.5968]	0.253444 (0.0630078) [6.82*e*-05]***	0.279383 (0.0324883) [1.56*e*-016]***
$MS_t \times GP_{t-2}$	0.0130701 (0.00878097) [0.1374]	0.0153506 (0.00862793) [0.0760]*	0.0150701 (0.0104009) [0.1481]	0.0207187 (0.00536399) [0.0001]***
$MS_t \times GDPpc_t$	1.28071*e*-05 (4.11000*e*-06) [0.0020]***	3.35444*e*-05 (8.46950*e*-06) [8.86e-05]***	1.46492*e*-05 (1.68693*e*-06) [8.35e-017]***	1.00734*e*-05 (1.37184*e*-06) [1.08e-012]***
$SFyear_t$	0.00716261 (0.00555893) [0.1983]	−0.0235517 (0.0118768) [0.0481]**	0.00440896 (0.00382769) [0.2500]	0.00831038 (0.00249431) [0.0009]***
N	428	428	428	428
Adj. R^2	0.287455	0.324019	-	0.403996
lnL	−233.1061	−186.7935	−233.8975	−602.4527
Akaike criterion	474.2123	433.5870	475.7950	1212.905

Note: (standard errors), [*p*-values]. * indicates significance at 10% level, ** indicates significance at 5% level, and *** indicates significance at 1% level.

Government partisanship has a positive and statistically significant effect on the dependent variable in the fixed-effects model only, yet the direction of its coefficient is the same in all analysed models and the variable is significant at a < 15% level. This suggests that the estimate of a positive and significant *GP* coefficient is statistically reliable. GDP *per capita* has a positive and statistically significant (*p*-value < 0.01) effect on the rate of EU SFs absorption in all models under analysis. However, the number of years receiving EU SFs is

negative and significant in the fixed-effects model only, indicating a much weaker relationship.

The results provided in Table 1 support the findings of panel diagnostics (joint significance of differing group means and Hausman test) that recommend using the fixed-effect model with RSE (see Appendix D). This alternative returns the lowest Akaike criterion (433.5870) and the highest adjusted-R^2 (0.324019) as well as log-likelihood (−186.7935) among the 3 models. Here, WLS is excluded from the analysis as it returns especially high Akaike criterion (1212.905) and low log-likelihood (−602.4527).

3.4.1.2.2. Comparison of the models in first differences. In order to perform a robustness check, the same models are run using variables differenced in the first order.

Table 2

Comparison of models with variables in the first differences. Dependent variable: d_rate of EU SFs absorption

	Pooled OLS	**Fixed-effects**	**Random-effects**	**Weighted least squares**
const.	−0.0187212 (0.0180418) [0.3001]	−0.0782133 (0.0235376) [0.0010]***	−0.0187212 (0.0522918) [0.7205]	−0.00445915 (0.0245541) [0.8560]
$d\_MS_t \times GP_{t-2}$	0.0245946 (0.0193803) [0.2052]	0.0185707 (0.0114013) [0.1042]	0.019894 (0.0164821) [0.2282]	0.0183577 (0.00704336) [0.0095]***
$d\_MS_t \times GDPpc_t$	4.22517*e*-05 (7.52650*e*-06) [3.70*e*-08]***	4.28056*e*-05 (9.65166*e*-06) [2.75*e*-06]***	4.12681*e*-05 (7.59704*e*-06) [2.052*e*-05]***	2.21257*e*-05 (5.26424*e*-06) [3.27*e*-05]***
$SFyear_t$	0.00026913 (0.00138404) [0.8459]	0.00444409 (0.00212114) [0.0368]**	0.00026913 (0.00325185) [0.9341]	0.00115083 (0.00174886) [0.5109]
N	395	395	395	395
Adj. R^2	0.066599	0.078327	-	0.053194
lnL	−265.3909	−263.3743	−265.3909	−553.6295
Akaike criterion	538.7819	586.7486	538.7819	1115.259

Note: (standard errors), [*p*-values]. * indicates significance at 10% level, ** indicates significance at 5% level, and *** indicates significance at 1% level.

Theory suggests that variables that are statistically significant and hold the same coefficient signs after first order differentiation indicate relationships that are empirically the strongest. Table 2 supports the findings of model comparison presented in Table 1. Coefficient of *GP* remains positive across all models, while *GDPpc* is positive and statistically significant; therefore, the results obtained can be interpreted with sufficient confidence.

3.4.1.3. Interpretation of findings. After the analysis of Model 1: Absorption, H_1, which states that left-wing governments are likely to absorb EU SFs less effectively than right-wing governments, is not rejected. The following regression equation was specified.

$$abs_t = 0.0591174 + 0.0153506 \times MS_t \times GP_{t-2} + 0.0000335444 \times MS_t \times GDPpc_t - 0.0235517 \times SFyear_t + \varepsilon$$

Fixed-effects panel analysis with RSE returned estimates specified in Table 3.

Table 3

Results of final Model 1: Absorption. Dependent variable: rate of EU SFs absorption

	Coefficient	**Std. error**	***t*-ratio**	***p*-value**	**Significance**
const.	0.0591174	0.111659	0.5294	0.5968	
$\boldsymbol{MS_t \times GP_{t-2}}$	0.0153506	0.00862793	1.779	0.0760	*
$\boldsymbol{MS_t \times GDPpc_t}$	3.35444*e*-05	8.46950*e*-06	3.961	8.86*e*-05	***
$\boldsymbol{SFyear_t}$	−0.0235517	0.0118768	−1.983	0.0481	**

Note: * indicates significance at 10% level, ** indicates significance at 5% level, and *** indicates significance at 1% level.

As illustrated above, coefficients of all explanatory variables in Model 1: Absorption are found to be statistically significant and have the anticipated directions of the effect.

3.4.2.3.1. Government partisanship. As predicted by H_1, government partisanship has a statistically significant (*p*-value = 0.0760) effect on the level of EU SFs

absorption, with left-wing governments absorbing less EU SFs than right-wing ones. In other words, governments whose PM party is evaluated by 1 point less on a 10-point scale of Chapel Hill expert survey (where 0 means extreme left and 10 – extreme right) (Ray, 1999), absorbs 1.5% less EU SFs 2 years later. The expected coefficient sign is consistent across different models (see Table 1) and after variable differentiation (see Table 2); therefore, the relationship proposed by H_1 of the Thesis is statistically firm.

3.4.1.3.2. GDP per capita. GDP *per capita* in MSs is statistically significant (*p*-value = 8.86*e*-05) for the level of EU SFs absorption, indicating a positive relationship. When GDP *per capita* of a MS increases by 1 000 USD, EU SFs absorption increases by 3.35%. This finding corresponds with the studies of Bocean (2012), Crina (2012), and Wostner (2008), who distinguish between macroeconomic, financial, and administrative-managerial dimensions of EU SFs absorption. Results suggest that the more resources a MS has, the better it is able to absorb EU resources from the macroeconomic and financial perspectives.

3.4.1.3.3. The number of years receiving EU SFs. The length of time in which a MS has been eligible for receiving EU SFs (after 1986 or joining the EU) is statistically significant for the rate of their absorption (*p*-value = 0.0481). Each additional year of receiving the funds decreases the rate of their absorption by 2.3%, meaning that new MSs tend to absorb EU SFs more effectively.

3.4.2. Model 2: Economic growth.

3.4.2.1. Panel diagnostics.

3.4.2.1.1. Normality of the variables. As in the case of Model 1: Absorption, the independent, control, and dependent variables of Model 2: Economic growth are not normally distributed (see Appendix C). Doornik-Hansen, Shapiro-Wilk W, Lilliefors, and Jarque-Bera

tests unanimously reject the H_0 of normal distribution by *p*-values < 0.1. After performing common data transformations (logarithms and squares) and not obtaining the expected results, the analysis is continued with the initial form of data values. However, the abnormal distribution of variables is taken into consideration while interpreting the findings.

3.4.2.1.2. OLS panel diagnostics. In order to identify the most appropriate form of Model 2: Economic growth, joint significance of differing group means, Breusch-Pagan, and Hausman tests are performed. Similarly to Model 1: Absorption, all tests return low *p*-values which indicate that the fixed-effects model is to be used for the analysis of economic growth (for the results of the OLS panel diagnostics, see Appendix D).

3.4.2.1.3. Heteroscedasticity, collinearity, and distribution of residuals. In order to detect possible heteroscedasticity, Wald test was performed. It rejected H_0 of homoscedasticity by returning a *p*-value of 0. To mitigate this issue, first, WLS model is constructed and added to Table 4; second, the fixed-effects model is adjusted by Arellano RSE (likewise in Model 1: Absorption).

No collinearity among the explanatory variables of Model 2: Economic growth is indicated by VIFs (see Appendix E). However, abnormal distribution of residuals (*p*-value = 0) raises concerns with the accuracy of empirical estimates. The issue is accounted for during the interpretation of findings and addressed by RSE.

3.4.2.2. Comparison of the models.

3.4.2.2.1. Comparison of the models in levels. Table 4 presents the results of pooled OLS, fixed-effects, random-effects, and weighted least squares estimations.

Table 4

Comparison of models with variables in levels. Dependent variable: economic growth

	lvl. pooled OLS	**lvl. fixed-effects**	**lvl. random-effects**	**lvl. weighted least squares**
const.	2.51494 (0.466809) [1.07*e*-07]***	1.15650 (0.447812) [0.0101]**	2.49148 (0.402687) [1.21*e*-09]***	2.14348 (0.313504) [2.19*e*-011]***
abs_{t-4}	0.000114477 (6.20817*e*-05) [0.0657]*	0.000202496 (5.77084*e*-05) [0.0005]***	0.000119200 (3.52730*e*-05) [0.0008]***	0.000113850 (2.52947*e*-05) [8.29*e*-06]***
$MS_t \times GDPin_t$	−0.000200074 (6.44532*e*-05) [0.0020]***	−0.0002641 (5.90181*e*-05) [9.41*e*-06]***	−0.000205626 (3.74858*e*-05) [6.34*e*-08]***	−0.000193862 (2.72748*e*-05) [3.74*e*-012]***
$MS_t \times s_{t-1}$	0.118204 (0.0216059) [6.85*e*-08]***	0.0964349 (0.0372262) [0.0099]***	0.108470 (0.0251341) [1.89*e*-05]***	0.0992354 (0.0169960) [9.08*e*-09]***
$MS_t \times edu_{t-1}$	−0.0284909 (0.00500915) [2.11*e*-08]***	−0.0401725 (0.0150119) [0.0077]***	−0.0282151 (0.00928042) [0.0025]***	−0.0226464 (0.00632127) [0.0004]***
$MS_t \times n_t$	0.276168 (0.435594) [0.5263]	0.766760 (0.588721) [0.1934]	0.473122 (0.373994) [0.2064]	0.801609 (0.273820) [0.0036]***
$MS_t \times a_{t-1}$	3.21566 (1.39186) [0.0212]**	15.3661 (2.90546) [1.82e-07]***	4.44465 (1.87300) [0.0180]**	3.07457 (1.04062) [0.0033]***
N	548	548	548	548
Adj. R^2	0.119543	0.147284	-	0.201922
lnL	−1456.937	−1422.091	−1457.560	−773.3782
Akaike criterion	2927.874	2910.182	2929.120	1560.756

Note: (standard errors), [*p*-values]. * indicates significance at 10% level, ** indicates significance at 5% level, and *** indicates significance at 1% level.

Coefficient behind the rate of EU SFs absorption is positive and statistically significant in all analysed models, suggesting that it can be interpreted with sufficient confidence. Initial GDP has a significant and negative coefficient across all analysed models; the rate of domestic savings is statistically significant and positive, while the rate of human capital accumulation is also significant, yet, contrary to the expected direction, it is negative. The rate of population growth has a statistically insignificant effect on the dependent variable. Finally, the rate of technological progress holds positive and statistically significant effect across all models under analysis.

Attention has to be drawn to low values of adjusted-R^2 observed in pooled OLS, WLS, and fixed-effects models. According to Moksony (1999), low R^2 in social sciences is a rather common phenomenon, pointing out to complex variance of empirical values, especially in such compound variables as national GDP. Based on the highest adjusted-R^2 (0.201922) and log-likelihood (−773.3782), as well as the lowest Akaike criterion (1560.756), WLS should be considered as the model with the most explanatory power. However, residuals of Model 2: Economic growth vary sufficiently (see Figure E3 in Appendix 3), meaning that the usage of WLS would result in bias towards the MSs with less error variance. In order to avoid this inaccuracy in coefficient estimates, fixed-effects model with RSE is chosen as the final estimation (adjusted-R^2: 0.147284; log-likelihood: −1422.091; Akaike criterion: 2910.182).

3.4.2.2.2. Comparison of the models in first differences. The same models are run using the variables in first differences (see Table 5), aiming to verify the robustness of the estimated relationships.

Table 5

Comparison of models with variables in the first differences. Dependent variable: d_economic growth

	Pooled OLS	**Fixed-effects**	**Random-effects**	**Weighted least squares**
const.	0.270459 (0.149973) [0.0725]*	0.257878 (0.157014) [0.1019]	0.270459 (0.243933) [0.2686]	0.126021 (0.144995) [0.3856]
d_abs_{t-4}	−0.383761 (0.372245) [0.3036]	−0.415629 (0.374154) [0.2678]	−0.383761 (0.484783) [0.4293]	−0.737741 (0.311460) [0.0186]**
$d\_MS_t \times GDPin_t$	−0.000502287 (9.57335*e*-05) [3.29*e*-07]***	−0.000510536 (9.88283*e*-05) [5.25*e*-07]***	−0.000502287 (6.74702*e*-05) [1.54*e*-012]***	0.000357875 (4.40829*e*-05) [2.10*e*-014]***
$d\_MS_t \times s_{t-1}$	−0.418668 (0.182923) [0.0229]**	−0.498730 (0.207166) [0.0169]**	−0.418668 (0.148057) [0.0051]***	−0.464498 (0.0987267) [4.19*e*-06]***

	Pooled OLS	**Fixed-effects**	**Random-effects**	**Weighted least squares**
$d\_MS_t \times edu_{t-1}$	0.0224903 (0.0665301) [0.7356]	0.0340082 (0.0698711) [0.6269]	0.0224903 (0.0790421) [0.7762]	0.0529363 (0.0454285) [0.2450]
$d\_MS_t \times n_t$	−0.0818266 (2.02933) [0.9679]	0.151243 (2.06015) [0.9415]	−0.0818266 (1.05178) [0.9381]	1.85567 (0.780173) [0.0181]**
$d\_MS_t \times a_{t-1}$	−25.2438 (11.5261) [0.0294]**	−23.0577 (13.1211) [0.0802]*	−25.2438 (11.0715) [0.0234]**	−15.0429 (8.39261) [0.0743]**
N	259	259	259	259
Adj. R^2	0.232475	0.265244	-	0.327050
lnL	−674.4590	−669.9230	−674.4590	−357.8479
Akaike criterion	1362.918	1405.846	1362.918	729.6958

Note: (standard errors), [*p*-values]. * indicates significance at 10% level, ** indicates significance at 5% level, and *** indicates significance at 1% level.

Models with the differentiated variables return mixed results. The impact that the rate of EU SFs absorption has on economic growth becomes statistically insignificant. Negative effect of initial GDP is confirmed, while the coefficient behind the rate of domestic savings changes its direction and is statistically significant. Positive impact of human capital accumulation and mixed (both positive and negative under different models) effect of population change are not significant for economic growth. Finally, the effect of technological progress is suggested to be significantly negative, which fails to support the findings of models in levels (see Table 4).

The rate of EU SFs absorption, domestic savings, and technological progress have an effect on economic growth that significantly changes under first level differentiation. These inconsistent estimates can be caused by the nature of differencing *per se*: subtraction decreases the number of data observations, thus biasing the estimates. However, conflicting results of differencing suggest that the findings of Model 2: Economic growth have to be analysed in a circumspect manner.

3.4.2.3. Interpretation of findings. Analysis of Model 2: Economic growth failed to reject H_2 which proposed that less effective absorption of EU SFs is likely to

produce less economic growth than more effective absorption. The following equation was specified:

$$Y_t = 1.15650 + 0.000202496 \times abs_{t-4} - 0.0002641 \times MS_t \times GDPin_t + 0.0964349 \times MS_t \times s_{t-1} - 0.0401725 \times MS_t \times edu_{t-1} + 0.766760 \times MS_t \times n_t + 15.3661 \times MS_t \times a_{t-1} + \varepsilon$$

The fixed-effects panel analysis with RSE returned the estimates specified in Table 6 below.

Table 6

Results of final Model 2: Economic growth. Dependent variable: economic growth

	Coefficient	**Std. error**	***t*-ratio**	***p*-value**	**Significance**
const.	1.15650	0.447812	2.583	0.0101	**
$\boldsymbol{abs_{t-4}}$	0.000202496	5.77084*e*-05	3.509	0.0005	***
$\boldsymbol{MS_t \times GDPin_t}$	−0.0002641	5.90181*e*-05	−4.475	9.41*e*-06	***
$\boldsymbol{MS_t \times s_{t-1}}$	0.0964349	0.0372262	2.591	0.0099	***
$\boldsymbol{MS_t \times edu_{t-1}}$	−0.0401725	0.0150119	−2.676	0.0077	***
$\boldsymbol{MS_t \times n_t}$	0.766760	0.588721	1.302	0.1934	
$\boldsymbol{MS_t \times a_{t-1}}$	15.3661	2.90546	5.289	1.82*e*-07	***

Note: * indicates significance at 10% level, ** indicates significance at 5% level, and *** indicates significance at 1% level.

Below are the descriptions of explanatory variables of Model 2: Economic growth, most of which conform to their expected directions.

3.4.2.3.1. Rate of EU SFs absorption. As predicted by H_2, the rate of EU SFs absorption has a statistically positive (*p*-value = 0.0005) effect on economic growth. 1% increase in absorption rate leads to 2.02496*e*-06% increase in economic growth 4 years later. The findings correspond to the overall rationale of EU cohesion policy and arguments presented in Section 1.3.2. The significance of this relationship was supported by different models (see Table 4); however, variable differentiation returned conflicting results (see Table 5). Therefore, the positive effect of the rate of EU SFs absorption on economic growth, significant at 5%, should be acknowledged with cautiousness.

3.4.2.3.2. Initial GDP. The initial level of GDP *per capita* in MSs has a negative and statistically significant (*p*-value = 9.41*e*-06) effect on economic growth. The results indicate that the convergence hypothesis (see Section 1.1.3) has empirical support among MSs of the EU: the lower the initial GDP *per capita*, the faster the economy of a MS grows. The specified model suggests that an increase of 1 000 USD in the initial GDP of a MS results in lower economic growth by 0.26%.

3.4.2.3.3. Rate of domestic savings. As anticipated, the rate of domestic savings has a statistically significant (*p*-value = 0.0099) and positive effect on next year's economic growth. Each 1% of GDP not consumed and saved for the capital accumulation leads to economic growth of 0.096%.

3.4.2.3.4. Rate of human capital accumulation. Contrary to the anticipated direction of the relationship, the rate of human capital accumulation has a statistically significant (*p*-value = 0.0077) and negative effect on economic growth. In other words, 1% increase in the portion of MS population that attained tertiary education decreases its economic growth by 0.04% 1 year later. Although this relationship was significant and negative in all models under analysis (see Table 4), it was shown to be insignificant after the differentiating (see Table 5).

3.4.2.3.5. Rate of population growth. The pace of population growth has a positive but statistically insignificant (*p*-value = 0.1934) effect on MSs economic growth, neither affirming nor denying the conflicting positions of scholars regarding the role of population dynamics in promoting economic development (Easterlin, 1967).

3.4.2.3.6. Rate of technological progress. As expected, the rate of technological progress, measured in the amount of patents registered by the residents of MSs, has a statistically significant (*p*-value = 1.82*e*-07) and positive impact on economic growth. A 0.01

increase in the number of patents filled in for 1 000 residents of a MS leads to economic growth of 0.15% 1 year later.

3.5. Interpretation of the Findings

The fixed-effects panel analyses with RSE failed to reject both hypotheses of this Thesis. The findings rely on the assumption that left-wing governments, when incumbent, introduce more redistribution and regulation on the economy, which results in more complex bureaucracies. In turn, they interfere with effective absorption of EU SFs through managerial-administrative dimension (H_1). A decrease in EU SFs absorption results in lower economic growth rates 4 years later (H_2).

The results of this analysis contribute to the literature on the conditionality of EU cohesion policy effectiveness by filling in a gap of knowledge on the relationship between government partisanship and the funds' absorption. At the same time, the study highlights the direct and indirect effects that differences in the ideology of executive parties have on administrative and, on a broader scale, economic development outcomes.

3.6. Limitations and Recommendations for Further Research

First broad group of analytical issues relevant for this analysis comes from the employed dataset. Operationalization of crucial variables (EU SFs absorption and technological progress) has intrinsic shortcomings. Financial absorption (ratio of payments over appropriations) is criticised as an inefficient measure of EU cohesion policy effectiveness and expediency (Jureviciene & Pileckaite, 2013), yet it was used in this study as the most valid proxy. The number of registered patents used for measuring technological progress can be dependent on the economic growth itself.

The issue of heteroscedasticity for both models was partially fixed using Arellano RSE, yet the issues remain and may require more complex econometric inference that goes beyond the scope of this Thesis. In addition, the variables were abnormally distributed and data values formed an unbalanced panel; this was partly caused by the nature of the research object, i.e. the time-varying number of EU MSs.

Second group of limitations concerns the tools of econometric analysis. Fixed-effects panel used for both Model 1: Absorption and Model 2: Econometric growth tends to return rather conservative results, biased against more time-constant variables. In addition, chosen tools returned 0.324019 and 0.147284 as the adjusted-R^2 for Model 1: Absorption and Model 2: Economic growth respectively. These measures indicate weak-to-moderate relationships only; however, Bahr (2008), Ederveen, de Groot and Nahuis (2006), Mohl and Hagen (2010), as well as Rodriguez-Pose and Fratesit (2004) find at best statistically modest relationships in their studies as well. Low coefficient of determination can be caused by a rather small and limited sample size, as well.

The third cluster of study limitations revolves around the framework of empirical research that this study is based on. Time lags added on government partisanship and EU SFs absorption (2 and 4 years respectively) are insufficiently explored in scholarly analysis, therefore, further academic attention should be drawn to the amount of time required to adopt bureaucratic apparatus to new policy implementation (H_1) and for the absorbed EU SFs to result in national economic growth (H_2). Additionally, the endogenous model of economic growth could have been the correct framework to employ in the context of EU cohesion policy. This construct assumes the technological progress to be endogenously determined in the model (Rogers, 2003), recognizes the existence of knowledge externalities and the impact of labour productivity dependent on the resources spent to improve it (McCallum, 1996). However, in accordance with the majority of academic literature and

"logical difficulties" of endogenous construct (McCallum, 1996, p. 58), neoclassical modelling of economic growth was employed in the Thesis.

Finally, the study could be re-run after several years in the MFF 2014-2020, as the scope of the Thesis was limited to 1990-2013 only. More inference on the EU cohesion policy has to be sought in the following years due to the limitations of the historical data[15].

[15] In accordance with Council Regulation (EEC, Euratom) No. 354/83 (modified by the Council Regulations (EC, Euratom), No. 1700/2003, and (EU) No. 496/2015) concerning the opening of the historical archives to public, the availability of European Commission's files and documents which are of historical, judicial or informative value is ensured only for the last 30 years.

Conclusion

The Thesis investigated 2 interconnected relationships: first, the impact that the EU MSs' government partisanship has on the rate of EU SFs absorption, second, the effect of the aforementioned rate on national economic growth. The rationale behind examining this economic policy further revolves around the fact that the portion of EU budget dedicated for cohesion policy had increased (McCormick, 2011), yet its effect on MSs' economic growth, as discussed in academic literature, has been perceived as ambiguous (Churski, 2008; Esposti & Bussoletti, 2008; Mohl & Hagen, 2010, *et al.*). Therefore, in order to explore the conditionality of EU SFs effectiveness and fill in the gap of knowledge regarding the relationship between government partisanship and the success in EU SFs absorption, relevant academic literature was explored and econometric analysis was performed.

The research question regarding the role of government partisanship in the EU SFs absorption and subsequent economic growth was answered in 3 stages of analysis. First, academic literature on EU cohesion policy, its conditionalities and effect on economic growth was reviewed in Chapter 1. It was established that EU SFs induce economic growth through demand and supply effects (Alvarez-Martinez, 2014), increase in investment, regional total factor productivity, and labour productivity (Esposti & Bussoletti, 2008), as well as spill-over effects among the beneficiary regions (Dall'erba & Fang, 2015; Lolos, 2009). However, favourable managerial-administrative conditions were determined to play a pivotal role in cohesion policy success (Bachtler & Ferry, 2015; Bloom & Petrova, 2013, *et al.*), prompting the shift of attention towards political governance.

Second, research on the government partisanship and its possible effects on the EU SFs absorption were analysed in Chapter 2. Scholars suggested that left-wing governments, in order to satisfy the needs and preferences of their constituents, introduce

higher public spending (Baggesen Klitgaard, Schumacher & Soentken, 2015; Gwiazda, 2013) (Assumption 1) and more market regulations (Blais, Blake & Dion, 1993) (Assumption 2). More significant role of government, preferred by left-wing parties, was argued to require bigger and more complex bureaucracies (Ungureanu & Iancu, 2012). Assumption 3 was added, implying that bigger bureaucracies, acting as intermediary agents in EU SFs absorption, can reduce the effectiveness of cohesion policy by creating more opportunities for rent-seeking (Libman, 2012) and making the process of EU SFs absorption more cumbersome for potential and existing beneficiaries (Bocean, 2012; Crina, 2012). The aforementioned 3 assumptions formed the causal mechanism behind the hypotheses of the study.

First, the Thesis aimed to test whether left-wing governments are likely to absorb EU SFs less effectively than right-wing governments. Second, the hypothesis that less effective absorption of EU SFs is likely to produce less economic growth than more effective absorption of EU SFs was addressed. Fixed-effects panel analysis with robust standard errors and other econometric tests were performed in Chapter 3 on the annual data of 27 EU MSs in the timeframe of 1990-2013.

Both of the hypotheses were not rejected. The results suggested that, based on the proposed causal mechanism, left-wing governments tend to absorb EU SFs less effectively, which, subsequently, leads to less national economic growth. However, the research was bound by several limitations. First, the timeframe under analysis comprised 5 enlargements of the EU, which led to an unbalanced panel dataset. Due to this, the coefficient estimates can be considered less reliable. Second, the time lags employed in both of the models (2 years for the government partisanship in Model 1: Absorption and 4 years for the rate of EU SFs absorption in Model 2: Economic growth) were insufficiently explored in

relevant academic literature; therefore, more in-depth analysis should be directed at the timing of the effects that explanatory variables have on the dependent ones.

Finally, the Thesis, having clarified the effect that political ideology of EU MSs' governments has on the national effectiveness of cohesion policy, contributes to the diverse literature on the EU SFs conditionality. It supports the suggestion that the role of national institutional and administrative framework in the implementation of EU SFs is pivotal.

Bibliography

Alesina, A., Perotti, R., & Tavares, J. (1998). The political economy of fiscal adjustments. *Brookings Papers on Economic Activity, 29*(1), 197-266. Retrieved from http://www.brookings.edu/~/media/Projects/BPEA/1998%201/1998a_bpea_alesina_perotti_tavares_obstfeld_eichengreen.PDF

Alvarez-Martinez, M. T. (2014). The effects of European structural funds in the Spanish regions using CGE models: a review. *Investigaciones Regionales, 29,* 129-138. Retrieved from http://www.aecr.org/images/ImatgesArticles/2014/10/06Alvarez.pdf

Andronova Vincelette, G., & Vassileva, I. (2006). Untangling the maze of European Union funds to Bulgaria. *The Policy Research working paper series,* (3962). Retrieved from http://dx.doi.org/10.1596/1813-9450-3962

Armstrong, H. W., & Wells, P. (2006). Evaluating the governance of structural funds programmes: the case of community economic development in South Yorkshire. *European Planning Studies, 14*(6), 855-876. doi:10.1080/09654310500496198

Bachtler, J. (1998). Reforming the structural funds: challenges for EU regional policy. *European Planning Studies, 6*(6), 645-664. doi:10.1080/09654319808720488

Bachtler, J., & Ferry, M. (2015). Conditionalities and the performance of European structural funds: a principal–agent analysis of control mechanisms in European Union cohesion policy. *Regional Studies, 49*(8), 1258-1273. doi:10.1080/00343404.2013.821572

Bachtler, J., Mendez, C., & Oraze, H. (2014). From conditionality to Europeanization in Central and Eastern Europe: administrative performance and capacity in cohesion

policy. *European Planning Studies, 22*(4), 735-757. doi:10.1080/09654313.2013.772744

Bader, V., & Bonotti, M. (2014). Introduction: parties, partisanship and political theory. *Critical Review of International Social and Political Philosophy, 17*(3), 253-266. doi:10.1080/13698230.2014.886382

Bahr, C. (2008). How does sub-national autonomy affect the effectiveness of structural funds? *Kyklos, 61*(1), 3-18. doi:10.1111/j.1467-6435.2008.00389.x

Baldwin, R., Forslid, R., Martin, P., Ottaviano, G., & Robert-Nicoud, F. (2005). *Economic Geography and Public Policy.* Princeton, NJ: Princeton University Press.

Barro, R. J., & Sala-i-Martin, X. (1991). Convergence across states and regions. Brookings *Papers on Economic Activity, 22*(1), 107-182. Retrieved from https://ideas.repec.org/a/bin/bpeajo/v22y1991i1991-1p107-182.html

Beugelsdijk, M., & Eijffinger, S. (2005). The effectiveness of structural policy in the European Union: an empirical analysis for the EU-15 in 1995–2001. *Journal of Common Market Studies, 43*(1), 37-51. doi:10.1111/j.0021-9886.2005.00545.x

Blais, A., Blake, D., & Dion, S. (1996). Do parties make a difference? A reappraisal. *American Journal of Political Science, 40*(2), 514-520. doi:10.2307/2111635

Bloom, S., & Petrova, V. (2013). National subversion of supranational goals: “pork-barrel” politics and EU regional aid. *Europe-Asia Studies, 65*(8), 1599–1620. doi:10.1080/09668136.2013.833014

Bocean, C. G. (2012). Absorption capacity of EU funds in Romania. *Revista Tinerior Economisti, 1*(18), 123-130. Retrieved from http://feaa.ucv.ro/RTE/018-14.pdf

Boland, P. (1999). Contested multi-level governance: Merseyside and the European structural funds. *European Planning Studies, 7*(5), 647-664. doi:10.1080/09654319908720543

Bolleyer, N., Van Spanje, J., & Wilson, A. (2012). New parties in government: party organisation and the costs of public office. *West European Politics, 35*(5), 971-998. doi:10.1080/01402382.2012.706407

Brown-John, C. L. (1967). Party politics and the Canadian federal public service. *Public Administration, 52*(1), 79-97. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1467-9299

Cace, C., Cace, S., Iova, C., & Nicolaescu, V. (2009). Absorption capacity of the structural funds. Integrating perspectives. *Revista de Cercetare si Interventie Sociala, 27,* 7-28. Retrieved from http://www.rcis.ro/images/documente/rcis27_01.pdf

Cancelo, J. R., Faina, J. A., & Lopez-Rodriguez, J. (2009). Measuring the permanent impact of European structural funds on peripheral Objective 1 regions: the case of Galicia. *European Planning Studies, 17*(10), 1535-1558. doi:10.1080/09654310903141771

Cardenete, M. A., & Delgado, M. C. (2013). Analysis of the impact of the European funds in Andalusia in 2007-2013 using a general equilibrium model. *Modern Economy, 4,* 448-452. Retrieved from http://dx.doi.org/10.4236/me.2013.46047

Carlsen, F. (1997). Counterfiscal policies and partisan politics: evidence from industrialized countries. *Applied Economics, 29*(2), 145-151. doi:10.1080/000368497327227

Christodoulakis, N. M., & Kalyvitis, S. C. (1998). Achieving convergence within the European Union: the role of structural funds in the case of Greece. *European Planning Studies, 6*(6), 695-707. doi:10.1080/09654319808720491

Churski, P. (2008). Structural funds of the European Union in Poland – experience of the first period of membership. *European Planning Studies, 16*(4), 579-607. doi:10.1080/09654310801983506

Cioban, G. L. (2014). The tertiary civilization – concept of the economic growth. *The USV Annals of Economics and Public Administration, 14*(1), 48-55. Retrieved from http://annals.seap.usv.ro/index.php/annals/article/viewFile/668/626

Clark, W. R., Golder, M., & Golder, S. N. (2004). Fiscal policy and the democratic process in the European Union. *European Union Politics, 3*(2), 205-230. doi:10.1177/1465116502003002004

Commission of European Communities. (1992). *Third annual report on the reform of the structural funds 1991* (SEC(92)). Brussels.

Commission of European Communities. (1993). *Fourth annual report from the Commission on the implementation of the reform of the structural funds 1992* (COM(93)530). Brussels.

Commission of European Communities. (1995). *Fifth annual report on the implementation of the reform of the structural funds 1993* (COM(95)30). Brussels.

Commission of European Communities. (1995). *Sixth annual report on the structural funds 1994* (COM(95)583). Brussels.

Commission of European Communities. (1996). *7th annual report on the structural funds 1995* (COM(96)502). Brussels.

Commission of European Communities. (1997). *The structural funds in 1996, eight annual report* (COM(97)526). Brussels.

Commission of European Communities. (1998). *9th annual report on the structural funds 1997* (COM(1998)562). Brussels.

Commission of European Communities. (1999). *The structural funds in 1998, tenth annual report* (COM(99)467). Brussels.

Commission of European Communities. (2000). *Report from the Commission 11th annual report on the structural funds* (1999) (COM(2000)698). Brussels.

Commission of European Communities. (2001). *Report from the Commission, twelfth annual report on the structural funds (2000)* (COM(2001)539). Brussels.

Commission of European Communities. (2002). *Report from the Commission, thirteenth annual report on the structural funds (2001)* (COM(2002)591). Brussels.

Commission of European Communities. (2003). *Report from the Commission, 14th annual report on the implementation of the structural funds 2002* (COM(2003)646). Brussels.

Commission of European Communities. (2004). *Report from the Commission, 15th annual report on the implementation of the structural funds 2003* (COM(2004)721). Brussels.

Commission of European Communities. (2005). *Report from the Commission, 16th annual report on implementation of structural funds 2004* (COM(2005)533). Brussels.

Commission of European Communities. (2006). *Report from the Commission, 17th annual report on implementation of structural funds (2005)* (COM(2006)638). Brussels.

Commission of the European Communities. (2007). *Report from the Commission, 18th annual report on implementation of structural funds (2006)* (COM(2007)676). Brussels.

Crina, P. S. (2012). Structural funds absorption growth by improving their management. *Annals of the University of Oradea, economic science series, 21*(2), 265-270. Retrieved from http://steconomiceuoradea.ro/anale/volume/2012/n2/038.pdf

Cusack, T. R. (1997a). Partisan politics and fiscal policy. *Comparative Political Studies, 32*(4), 464-486. doi:10.1177/0010414099032004003

Cusack, T. R. (1997b). Partisan politics and public finance: changes in public spending in the industrialized democracies, 1955-1989. *Public Choice, 91*, 375-395. doi:10.1023/A:1004995814758

Cyburt, A. (2014). The activity of local governments in the absorption of EU funds as a factor in the development of rural communes. *Oeconomia, 13*(4), 31-42. Retrieved from http://www.staff.amu.edu.pl/~chur/bibliografia/STRUCTURAL%20FUNDS.PDF

Dall'erba, S., & Fang, F. (2015). Meta-analysis of the impact of European Union structural funds on regional growth. *Regional Studies*, 1-12. doi:10.1080/00343404.2015.1100285

Dall'erba, S., & Le Gallo, J. (2008). Regional convergence and the impact of structural funds over 1989–1999: a spatial econometric analysis. *Papers in Regional Science, 87*(2), 219–244. doi:10.1111/j.1435-5957.2008.00184.x

Downs, A. (1957). An economic theory of political action in a democracy. *The Journal of Political Economy, 65*(2), 135-150. Retrieved from http://dx.doi.org/10.1086/257897

Easterlin, R. A. (1967). Effects of population growth on the economic development of developing countries. *The annals of the American Academy of Political and Social Science, 369*(1), 98-108. doi:10.1177/000271626736900110

Ederveen, S., de Groot, H., & Nahuis, R. (2006). Fertile soil for structural funds? A panel data analysis of the conditional effectiveness of European cohesion policy. *Kyklos, 59*(1), 17-42. doi:10.1111/j.1467-6435.2006.00318.x

Eslava, M. (2006). The political economy of fiscal policy: survey. *Research Department working paper series, 583,* 1-42. Retrieved from http://www.iadb.org/res/publications/pubfiles/pubWP-583.pdf

Esposti, R., & Bussoletti, S. (2008). Impact of Objective 1 funds on regional growth convergence in the European Union: a panel-data approach. *Regional Studies, 42*(2), 159-173. doi:10.1080/00343400601142753

EUR-Lex. (2005). *Objective 1* (26.02.04.00). Retrieved from http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:g24203

EUR-Lex. (2016). *Structural and investment funds.* Retrieved from http://eur-lex.europa.eu/summary/glossary/structural_cohesion_fund.html

European Commission. (2010). *Europe 2020 a strategy for smart, sustainable and inclusive growth (3.3.2010).* Retrieved from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF

European Commission. (2011, June 29). *A budget for Europe 2020.* Retrieved from http://ec.europa.eu/budget/library/biblio/documents/fin_fwk1420/MFF_COM-2011-500_Part_I_en.pdf

European Commission. (2016a). *Regional policy.* Retrieved from http://ec.europa.eu/regional_policy/en/faq/#10

European Commission. (2016b). *Cohesion Fund.* Retrieved from http://ec.europa.eu/regional_policy/en/funding/cohesion-fund/

European Commission. (2016c). *Financial framework 2007-2013.* Retrieved from http://ec.europa.eu/budget/figures/fin_fwk0713/fwk0713_en.cfm#cf07_13

European Commission. (2016d). *Allocation of EU expenditure by member state.* Retrieved from http://ec.europa.eu/budget/financialreport/2014/expenditure/allocation/index_en.html

European Council, & European Commission. (2012). *Consolidated version of the Treaty on European Union* (C 326/1). Retrieved from Official Journal of the European Union website: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:12012M005

European Parliament, & Council of the European Union. (2013). *Regulation (EU) No. 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down*

general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No. 1083/2006 (1303/2013). Retrieved from Official Journal of the European Union website: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1303&:PDF

Eurostat. (2016). *Eurostat database.* Retrieved from http://ec.europa.eu/86lackwel/data/database

Friedman, A., Hercowitz, Z., & Sidi, J. (2015). Fiscal policy in an open economy. *B.E. Journal of Macroeconomics, 16*(1), 25-46. doi:10.1515/bejm-2015-0064

Fujita, M., Krugman, P., & Venables, A. J. (1999). *The spatial economy: cities, regions and international trade.* Cambridge, MA: MIT Press.

Growiec, J. (2010). *On the measurement of technological progress across countries* (73). Retrieved from National Bank of Poland website: http://www.nbp.pl/publikacje/materialy_i_studia/73_en.pdf

Gwiazda, A. (2013). The Europeanisation of regional policy in Poland: did political parties make a difference? *East European Politics, 29*(2), 226–244. doi: 10.1080/21599165.2013.782540

Ha, E. (2007). Globalization, veto players, and welfare spending. *Comparative Political Studies, 41*(6), 783-813. doi:10.1177/0010414006298938

Hagen, J. (2005). Political economy of fiscal institutions. *Discussion paper series of SFB/TR 15 Governance and the Efficiency of Economic Systems, 149,* 1-14. Retrieved from http://www.gesy.uni-mannheim.de/dipa/149.pdf

Hallerberg, M., Strauch, R., & Hagen, J. (2004). The design of fiscal rules and forms of governance in European Union countries. *European Central Bank working paper series, 419,* 1-38. Retrieved from https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp419.pdf?e2f189ff0722b934c36bd56d75a311b3

Hibbs, D. A. (1977). Political parties and macroeconomic policy. *The American Political Science Review, 71*(4), 1467-1487. Retrieved from http://www.people.fas.harvard.edu/~iversen/PDFfiles/Hibbs1977.pdf

Horvat, A. (2004). *Absorption problems in the EU Structural Funds.* Ljubljana, Slovenia: NARG.

Ickes, B. W. (1996). Endogenous growth models. *Department of Economics Penn State University.* Retrieved from http://grizzly.la.psu.edu/~bickes/endogrow.pdf

Ickes, B. W. (2008). Introduction to development economics. *Department of Economics Penn State University.* Retrieved from http://grizzly.la.psu.edu/~bickes/introdev.pdf

International Institute for Democracy and Electoral Assistance. (2016). *Table of electoral systems worldwide.* Retrieved from http://www.idea.int/esd/world.cfm

Iversen, T., & Soskice, D. (2006). Electoral systems and the politics of coalitions: why some democracies redistribute more than others. *American Political Science Review, 100*(2), 165-181. Retrieved from http://dx.doi.org/10.1017/S0003055406062083

Iversen, T., & Stephens, J. D. (2008). Partisan politics, the welfare state, and three worlds of human capital formation. *Comparative Political Studies, 42*(4/5), 600-637. doi:10.1177/0010414007313117

Jager, J., & Hafner, K. A. (2013). The optimum currency area theory and the EMU. *Intereconomics, 48*(5), 315-322. doi:10.1007/s10272-013-0474-7

Jaliu, D., & Radulescu, C. (2013). Six years in managing structural funds in Romania. Lessons learned. *Transylvanian Review of Administrative Sciences, 38,* 79-95. Retrieved from http://rtsa.ro/tras/index.php/tras/article/download/113/109

Jureviciene, D., & Pileckaite, J. (2013). The impact of EU structural fund support and problems of its absorption. *Business, Management and Education, 11*(1), 1-18. doi:10.3846/bnne.2013.01

Katsaitis, O., & Doulos, D. (2009). The impact of EU structural funds on FDI. *Kyklos, 62*(4), 563-578. doi:10.1111/j.1467-6435.2009.00451.x

Kayser, M. A., & Wlezien, C. (2011). Performance pressure: patterns of partisanship and the economic vote. *European Journal of Political Research, 50,* 365–394. doi:10.1111/j.1475-6765.2010.01934.x

Keefer, P. E. (2013). *Database of Political Institutions 2012 (updated Jan. 2013).* Retrieved from http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:20649465~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html

Kemmerling, A., & Bodenstein, T. (2013). Partisan politics in regional redistribution. *European Union Politics, 7*(3), 373–392. doi:10.1177/1465116506066264

Klitgaard, M. B., Schumacher, G., & Soentken, M. (2015). The partisan politics of institutional welfare state reform. *Journal of European Public Policy, 22*(7), 948-966. doi:10.1080/13501763.2014.978355

Krugman, P. (1991). Increasing returns and economic geography. *Journal of Political Economy, 99,* 483–499. doi:10.1086/261763

Leonardi, L. (2006). Cohesion in the European Union. *Regional Studies, 40*(02), 155-166. doi:10.1080/00343400600600462

Lequiller, F., & Blades, D. (2004). Is GDP a satisfactory measure of growth? *OECD Observer, 246.* Retrieved from http://www.oecdobserver.org/news/archivestory.php/aid/1518/Is_GDP_a_satisfactory_measure_of_growth_.html

Libman, A. (2012). Democracy, size of bureaucracy, and economic growth: evidence from Russian regions. *Empirical Economics, 43,* 1321-1352. doi:10.1007/s00181-011-0525-5

Lipset, S. M., & Rokkan, S. (1967). *Party systems and voter alignments: cross-national perspectives.* New York: Free Press.

Livermore, M. A., & Revesz, R. L. (2012). Regulatory review, capture, and agency inaction. *New York University Law and Economics working papers, 309,* 1337-1398. Retrieved from http://lsr.nellco.org/nyu_lewp

Lolos, S. E. (2009). The effect of EU structural funds on regional growth: assessing the evidence from Greece, 1990–2005. *Economic Change and Restructuring, 42*(3), 211-228. doi:10.1007/s10644-009-9070-z

MacCarthaigh, M. (2012). Politics, policy preferences and the evolution of Irish bureaucracy: a framework for analysis. *Irish Political Studies, 27*(1), 23-47. doi:10.1080/07907184.2012.636180

Martin, P. (2000). The role of public policy in the process of regional convergence. *Cahiers BEI, 5,* 69-79. Retrieved from http://econpapers.repec.org/paper/spowpmain/info_3ahdl_3a2441_2f9328.htm

Marzinotto, B. (2012). The growth effects of EU cohesion policy: a meta-analysis. *Bruegel working paper, 14,* 1-22. Retrieved from http://bruegel.org/wp-content/uploads/imported/publications/WP_2012_14_cohesion__2_.pdf

Matei, A., & Savulescu, C. (2015). Instruments and practices concerning the absorption and use of structural and cohesion funds in Romania. *Theoretical and Applied Economics, 22*(2), 5-22. Retrieved from http://www.apas.admpubl.snspa.ro/handle/2010/470

Maynou, L., Saez, M., Kyriacou, A., & Bacaria, J. (2014). The impact of structural and cohesion funds on Eurozone convergence, 1990–2010. *Regional Studies.* doi:10.1080/00343404.2014.965137

McCallum, B. T. (1996). Neoclassical vs. endogenous growth analysis: an overview. *Economic Quarterly, 82*(4), 41-71. doi:10.3386/w5844

McCormick, J. (2011). *European Union politics* (2nd ed.). Palgrave Macmillan.

Mezeniece, M., & Rivza, B. (2011). Influential factors on the EU structural funds financing the R&D field in Latvia. *European Integration Studies, 5,* 57-62. Retrieved from http://www.eis.ktu.lt/index.php/EIS/article/view/1076/1153

Mohl, P., & Hagen, T. (2010). Do EU structural funds promote regional growth? New evidence from various panel data approaches. *Regional Science and Urban Economics, 40*(5), 353–365. doi:10.1016/j.regsciurbeco.2010.03.005

Moksony, R. (1999). Small is beautiful. The use and interpretation of R^2 in social research. *Szociologiai Szemle*, 130-138. Retrieved from https://www.researchgate.net/publication/242329609_Small_is_beautiful_The_use_and_interpretation_of_R2_in_social_research

Moore, J., Felton, J., & Wright, C. (2010). The influence of political orientation on financial risk taking. *American Journal of Business*, *22*(1), 35-45. Retrieved from http://ssrn.com/abstract=2222678

Mundell, R. A. (1961). A theory of optimum currency areas. *The American Economic Review, 51*(4), 657-665. Retrieved from https://www.aeaweb.org/aer/top20/51.4.657-665.pdf

Nordsieck, W. (2016). *Parties and elections in Europe.* Retrieved from http://www.parties-and-elections.eu/

Padgett, S. (2005). The party politics of economic reform: Public opinion, party positions and partisan cleavages. *German Politics, 14*(2), 248-274. doi:10.1080/09644000500154573

Pinho, C., Varum, C., & Antunes, M. (2015a). Structural funds and European regional growth: comparison of effects among different programming periods. *European Planning Studies, 23*(7), 1302-1326. doi:10.1080/09654313.2014.928674

Pinho, C., Varum, V., & Antunes, M. (2015b). Under what conditions do structural funds play a significant role in European regional economic growth? Some evidence from

recent panel data. *Journal of Economic Issues, 49*(3), 749-771. doi:10.1080/00213624.2015.1072382

Przeworski, A. (1985). *Capitalism and social democracy.* New York, NY: Cambridge University Press.

Ray, L. (1999). Measuring party orientations toward European integration: results from an expert survey. *European Journal of Political Research, 36*(2), 283–306. Retrieved from http://www.unc.edu/~hooghe/data_pp.php

Rodriguez-Pose, A., & Fratesit, U. (2004). Between development and social policies: the impact of European structural funds in Objective 1 regions. *Regional Studies, 38*(1), 97-113. doi:10.1080/0034340031000163222 6

Rogers, M. (2003). A survey of economic growth. *The Economic Record, 72*(224), 112-135. doi:10.1111/1475-4932.00082

Romer, P. M. (1986). Increasing returns and long-run growth. *The Journal of Political Economy, 94*(5), 1002-1037. Retrieved from http://links.jstor.org/sici?sici=0022-3808%28198610%2994%3A5%3C1002%3AIRALG%3E2.0.CO%3B2-C

Rose, R. (1984). *Understanding big government.* CA: Beverly Hills: Sage.

Rose, R., & Karran, T. (1987). *Taxation by political intertia.* London, UK: Allen and Unwin.

Rynck, S., & McAleavey, P. (2001). The cohesion deficit in Structural Fund policy. *Journal of European Public Policy, 8*(4), 541-557. doi:10.1080/13501760110064384

Schmidt, M. B. (2013). Voting with the crowd: do single issues drive partisanship? *Applied Economics, 45,* 1691–1700. Retrieved from http://dx.doi.org/10.1080/00036846.2011.636022

Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics, 70*(1), 65-94. Retrieved from http://links.jstor.org/sici?sici=0033-5533%28195602%2970%3A1%3C65%3AACTTTO%3E2.0.CO%3B2-M

Swan, T. (1956). Economic growth and capital accumulation. *The Economic Record, 32*(2), 334-361. doi:10.1111/j.1475-4932.1956.tb00434.x

Ungureanu, M., & Iancu, D. (2012). The economic analysis of bureaucracy and government growth. *Theoretical and Applied Economics, 19*(11), 59-74. Retrieved from http://store.ectap.ro/articole/796.pdf

Vasiliauskaite, A., & Vitkauskas, M. (2007). The attainability analysis to complete requirements of optimum currency area within EU. *Economics and Management, 12,* 261-268. Retrieved from http://connection.ebscohost.com/c/articles/25963503/attainability-analysis-complete-requirements-optimum-currency-area-within-eu

Volkens, A., Lehmann, P., Matthies, T., Merz, N., Regel, S., & Werner, A. (2015). *The Manifesto Data Collection. Manifesto Project (MRG/CMP/MARPOR). Version 2015a.* Berlin: Wissenschaftszentrum Berlin fur Sozialforschung.

World Bank. (2016). *World development indicators.* Retrieved from http://data.worldbank.org/indicator

World Bank. (2016a). *GDP per capita (current US$).* Retrieved from http://data.worldbank.org/indicator/NY.GDP.PCAP.CD

World Bank. (2016b). *GDP growth (annual %).* Retrieved from http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries?page=1&display=default

World Bank. (2016c). *Gross domestic savings (% of GDP).* Retrieved from http://data.worldbank.org/indicator/NY.GDS.TOTL.ZS?page=5

World Bank. (2016d). *Gross enrolment ratio, tertiary, both sexes (%).* Retrieved from http://data.worldbank.org/indicator/SE.TER.ENRR?page=5

World Bank. (2016e). *Population growth (annual %).* Retrieved from http://data.worldbank.org/indicator/SP.POP.GROW?page=5

World Bank. (2016f). *Patent applications, residents.* Retrieved from http://data.worldbank.org/indicator/IP.PAT.RESD

Wostner, P. (2008). The microefficiency of EU cohesion policy. *European Policies Research paper, 64,* 1-67. Retrieved from http://www.eprc.strath.ac.uk/eprc/documents/PDF_files/EPRP_64_Wostner.pdf

Appendix A

Review of Academic Literature on EU SFs Effectiveness

Table A1

Review of the academic literature on the EU SFs effectiveness

Study	Impact of SFs on economic growth	Proxy for EU SFs	Time frame	Sample	Method
Bahr (2008)	Effect depends on sub-national autonomy of MSs: impact is positive in decentralized structures and negative in federations. Combined effect of EU SFs is 0.031% growth in GDP	ERDF appropriations (% of GDP)	1975-1995	13 EU MSs	Pooled OLS panel analysis
Cancelo, Faina, and Lopez-Rodriguez (2009)	Holding different assumptions, in short-term (2000-2006) EU SFs account for 7.1% growth in GDP and in long-term (1994-2020) the effect is 5.5%	Payments of ERDF, ESF, EAGGF (guidance section), and FIFG	1994-2006	Objective 1 region of Spain: Galicia	Panel analysis
Cardenete and Delgado (2013)	1% increase in EU SFs payments received by beneficiaries corresponds to 1.4% growth in their GDP	Payments of ERDF, ESF, and CF	2007-2013	Objective 1 region of Spain: Andalusia	General equilibrium model
Christodoulakis and Kalyvitis (1998)	Growth in GDP induced by EU SFs varies between -1.4% in low growth scenario and 2.6% in high growth scenario	Payment appropriations of EU SFs	1994-1999	Greece	*Ex-ante* macroeconomic scenario analysis
Ederveen, de Groot, and Nahuis (2006)	EU SFs do not have a significant impact on economic growth of MSs. They only produce positive effect when they are administered in MSs with good institutional quality	Payment commitments (% of GDP) of ERDF	1960-1995	13 EU MSs	Panel analysis
Esposti and Bussoletti (2008)	Generally limited and insignificant or negative impact in regional cases. On national level, EU	Payments of ERDF, ESF, EAGGF, and	1989-1999	206 NUTS-2 regions (EU-15)	Panel analysis

Study	Impact of SFs on economic growth	Proxy for EU SFs	Time frame	Sample	Method
	SFs effect is negative in Germany, Greece, and Spain; it is positive in France	FIFG for Objective 1 regions *per capita*			
Maynou, Saez, Kyriacou, and Bacaria (2014)	Positive effects on growth and economic convergence. Payments of EU SFs increased GDP from 0.01% (random-effects estimation) to 0.9% (fixed-effects estimation)	Payments of EU SFs and CF	1990-2010	174 NUTS-2 regions (17 EU MSs in Eurozone)	Spatial-temporal fixed- and random-effects panel analysis
Mohl and Hagen (2010)	Significant regional growth is promoted only in Objective 1 regions. With an increase in EU SFs payments by 1%, output in Objective 1 regions grows by 0.5%	Payments *per capita* for Objective 1, 2, and 3 regions	1995–2005	126 NUTS-1 and NUTS-2 regions (EU-14)	Fixed-effects panel analysis
Pinho, Varum, and Antunes (2015b)	Positive marginal impact on regional economic growth is only statistically significant when human capital and technology levels are low.	Payments of EU SFs (% of GDP)	1995-2009	137 NUTS-2 regions	Fixed-effects panel analysis
Rodriguez-Pose and Fratesit (2004)	Significant medium- to long-term results are only found for investments into education and human capital formation; otherwise, the policy produces insignificant results	Payment commitments (% of GDP) for Objective 1 regions	1989-1999	152 NUTS-2 regions (EU-8)	Cross-section and panel analysis (OLS and pooled GLS-fixed-effects)

Appendix B

Descriptive Statistics of Variables in Model 1: Absorption and Model 2: Economic Growth

Table B1

Descriptive statistics of variables in Model 1: Absorption

Variable	Mean	Median	Min	Max	Std. dev.	C. V.	Skewness	Ex. kurtosis	Missing obs.
Rate of EU SFs absorption	0.81916	0.78860	0.00000	6.0122	0.48813	0.59589	4.1959	34.490	202
Government partisanship	5.5245	5.5600	1.0000	8.5714	1.6466	0.29805	-0.12630	-0.86571	152
GDP *per capita*	23348	21176	1102.1	1.1373e+005	17980	0.77011	1.5587	4.3058	21
Number of years receiving EU SFs	9.1481	7.0000	0.00000	28.000	8.7484	0.95630	0.60493	-0.87467	0

Table B2

Descriptive statistics of variables in Model 2: Economic growth

Variable	Mean	Median	Min	Max	Std. dev.	C. V.	Skewness	Ex. kurtosis	Missing obs.
Economic growth	2.4180	2.6679	-14.814	11.902	3.6466	1.5081	-0.98731	3.2118	32
Rate of EU SFs absorption	0.81916	0.78860	0.00000	6.0122	0.48813	0.59589	4.1959	34.490	202
Initial GDP	22849	20808	1102.1	1.1324e+005	17599	0.77022	1.5306	4.2045	48
Rate of domestic savings	23.636	23.647	7.6541	52.501	7.3228	0.30981	1.0016	2.2612	23
Rate of human capital accumulation	49.407	50.636	4.7897	116.62	20.903	0.42309	0.057269	-0.45315	42
Rate of population growth	0.23536	0.27140	-2.5743	2.8910	0.77477	3.2919	-0.15628	1.4208	2
Rate of technological progress	0.14750	0.077876	0.0017518	0.62930	0.14047	0.95231	1.3422	1.2300	47
Number of years receiving EU SFs	9.1481	7.0000	0.00000	28.000	8.7484	0.95630	0.60493	-0.87467	0

Appendix C

Normality of Variables in Model 1: Absorption and Model 2: Economic Growth

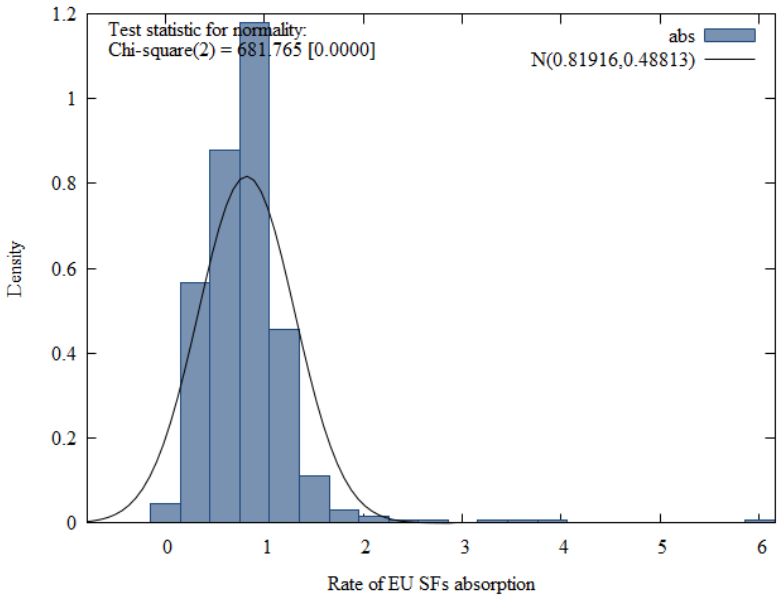


Figure C1. Frequency distribution of the rate of EU SFs absorption (*abs*)

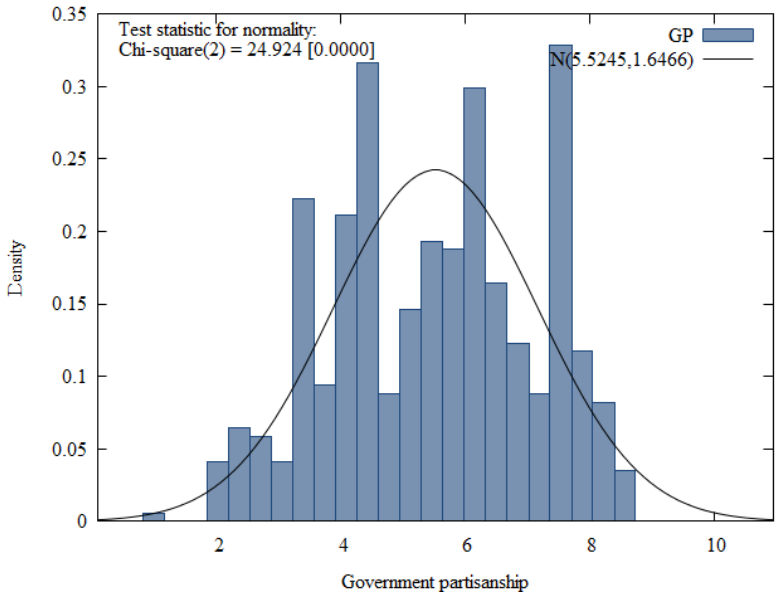


Figure C2. Frequency distribution of government partisanship (*GP*)

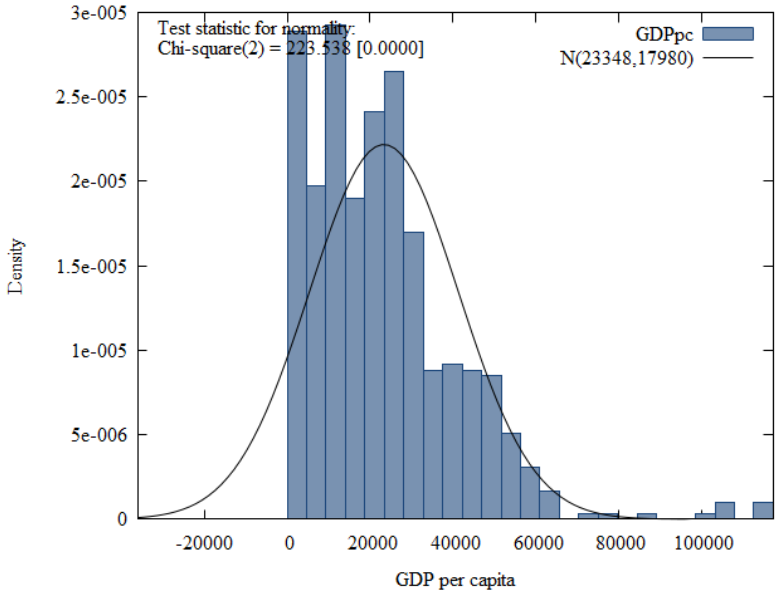


Figure C3. Frequency distribution of GDP *per capita* (*GDPpc*)

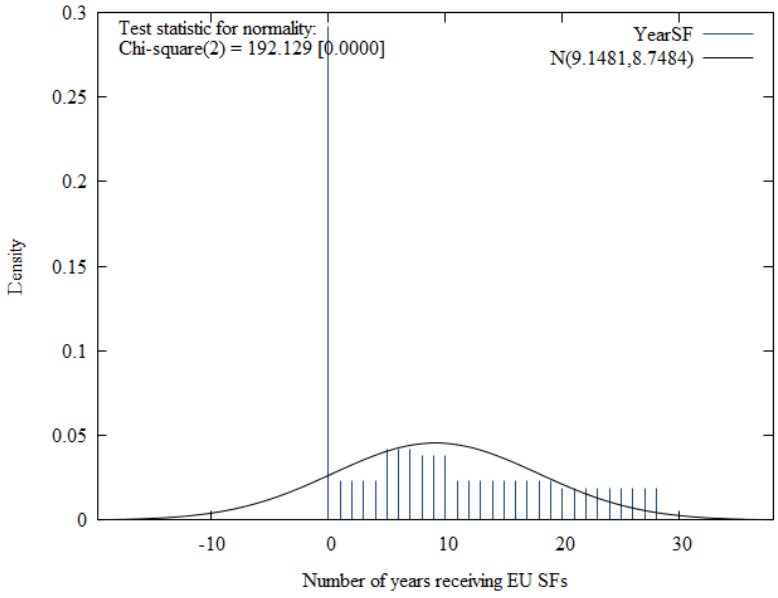


Figure C4. Frequency distribution of the number of years receiving EU SFs (*SFyear*)

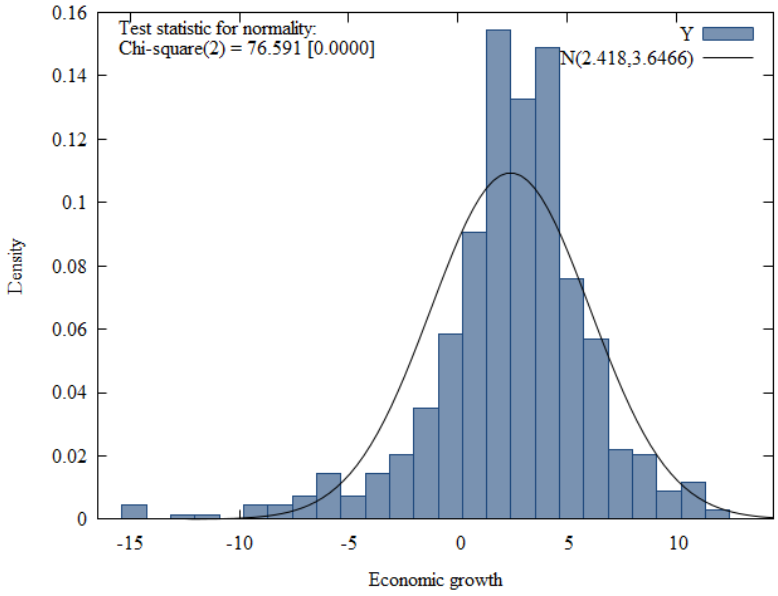


Figure C5. Frequency distribution of economic growth (*Y*)

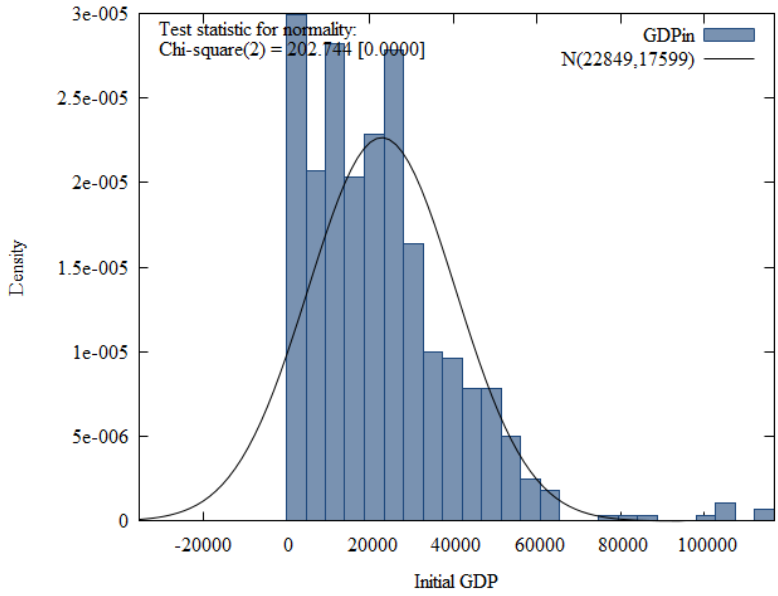


Figure C6. Frequency distribution of initial GDP (*GDPin*)

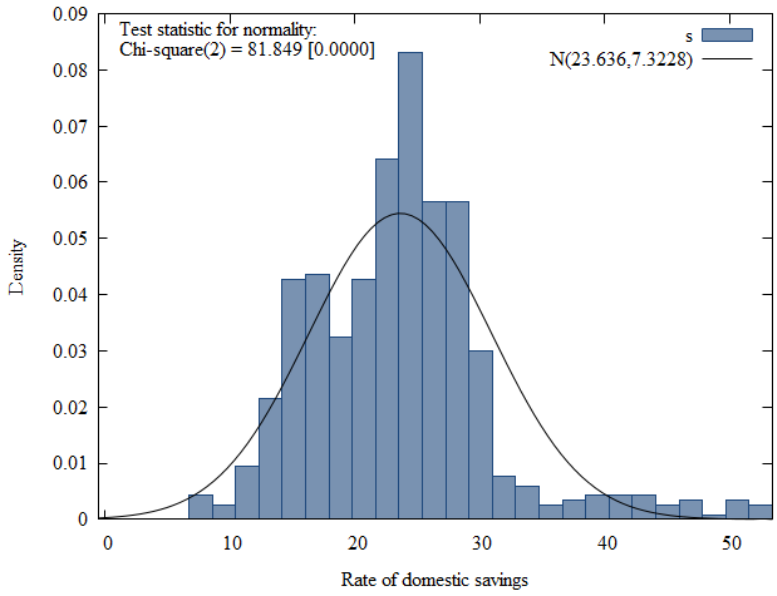


Figure C7. Frequency distribution of the rate of domestic savings (*s*)

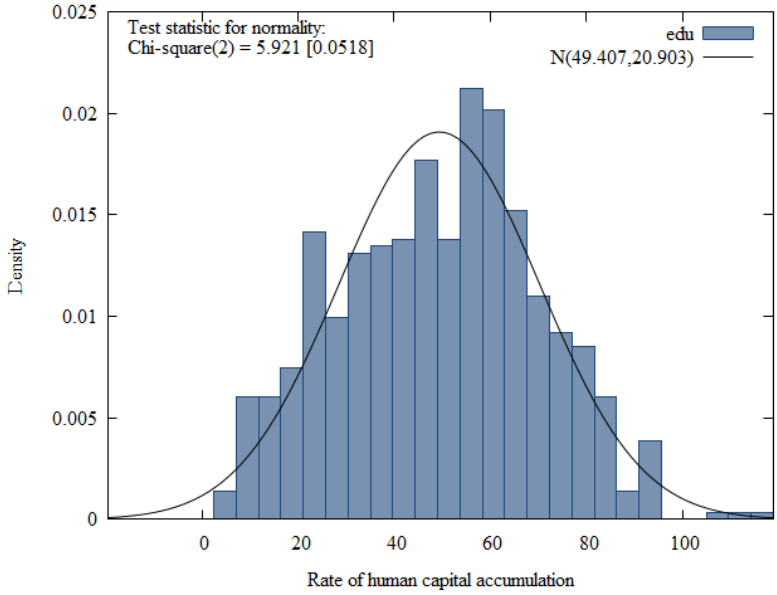


Figure C8. Frequency distribution of the rate of human capital accumulation (*edu*)

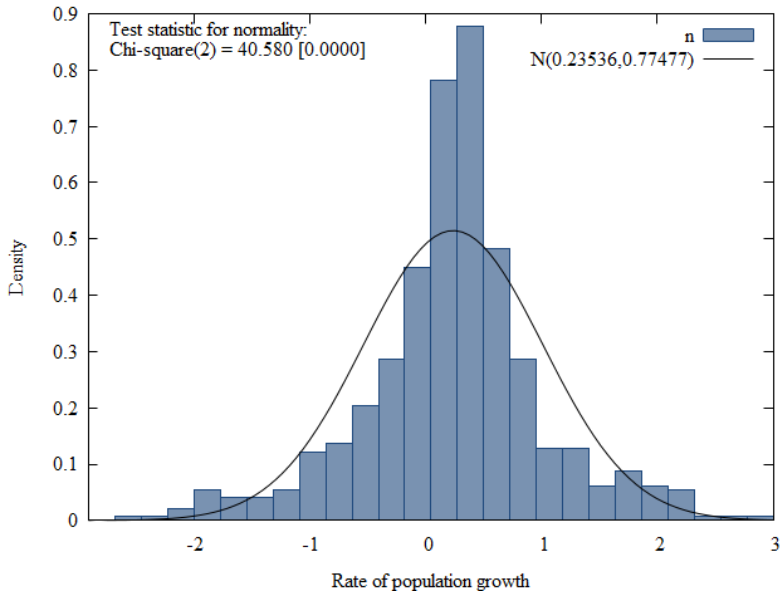


Figure C9. Frequency distribution of the rate of population growth (*n*)

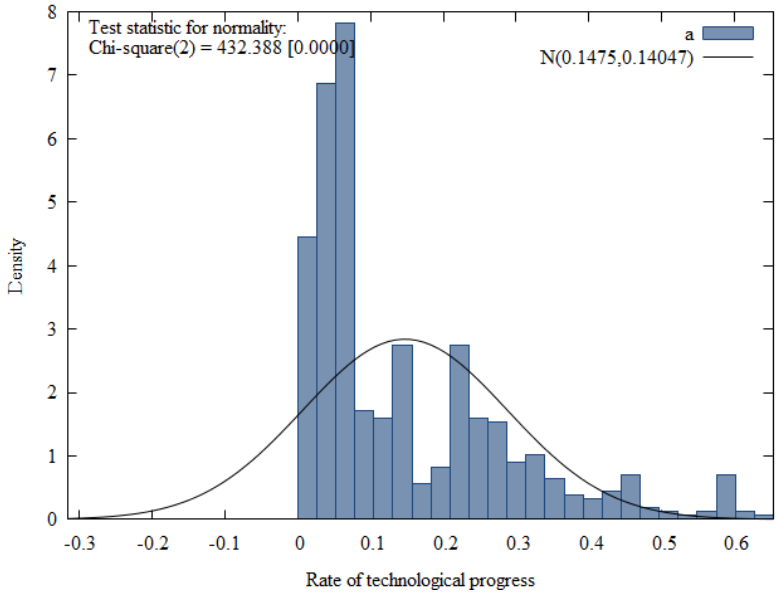


Figure C10. Frequency distribution of the rate of technological progress (*a*)

Appendix D

Panel Diagnostics of Model 1: Absorption and Model 2: Economic Growth

Table D1

Panel diagnostics of Model 1: Absorption

Test	***p*-value**	**Hypothesis**	**Indication**
Breusch-Pagan	0.000612126	A low *p*-value counts against the null hypothesis that the pooled OLS model is adequate, in favour of the random-effects alternative	Random-effects model
Joint significance of differing group means	9.09801*e*-009	A low *p*-value counts against the null hypothesis that the pooled OLS model is adequate, in favour of the fixed-effects alternative	Fixed-effects model
Hausman test statistic	6.57842*e*-012	A low *p*-value counts against the null hypothesis that the random-effects model is consistent, in favour of the fixed-effects model	Fixed-effects model

Table D2

Panel diagnostics of Model 2: Economic growth

Test	***p*-value**	**Hypothesis**	**Indication**
Breusch-Pagan	0.00334384	A low *p*-value counts against the null hypothesis that the pooled OLS model is adequate, in favour of the random-effects alternative	Random-effects model
Joint significance of differing group means	1.79602*e*-005	A low *p*-value counts against the null hypothesis that the pooled OLS model is adequate, in favour of the fixed-effects alternative	Fixed-effects model
Hausman test statistic	0.00192128	A low *p*-value counts against the null hypothesis that the random-effects model is consistent, in favour of the fixed-effects model	Fixed-effects model

Appendix E

Tests for Heteroscedasticity, Collinearity, and Normality of Residual Distribution for Model 1: Absorption and Model 2: Economic Growth

Heteroscedasticity of Model 1: Absorption

Distribution free Wald test for heteroscedasticity: $\chi^2(27) = 1793.08$, with *p*-value = 0.

Collinearity of Model 1: Absorption

Table E1

Variance inflation factors of Model 1: Absorption

	$MS_t \times GP_{t-2}$	$MS_t \times GDPpc_t$	$SFyear_t$
Value	1.874	2.625	3.223

Note: minimum possible value = 0; values > 10.0 may indicate a collinearity problem.

Distribution of residuals of Model 1: Absorption

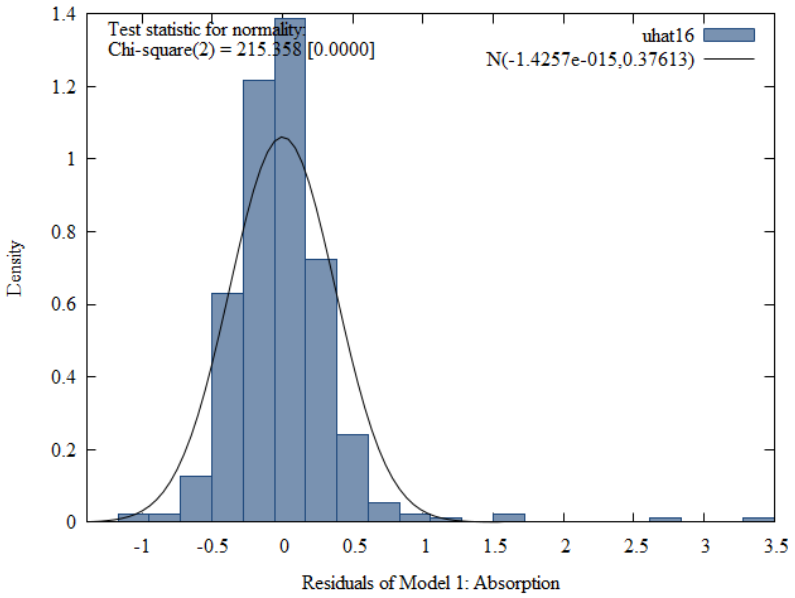


Figure E1. Distribution of Model 1: Absorption residuals (fixed-effects model)

Heteroscedasticity of Model 2: Economic growth

Distribution free Wald test for heteroscedasticity: $\chi^2(27) = 1563.48$, with *p*-value = 0.

Collinearity of Model 2: Economic growth

Table E2

Variance inflation factors of Model 2: Economic growth

	abs_{t-4}	$MS_t \times GDPin_t$	$MS_t \times s_{t-1}$	$MS_t \times edu_{t-1}$	$MS_t \times n_t$	$MS_t \times a_{t-1}$
Value	4.823	6.821	4.711	4.232	2.047	1.991

Note: minimum possible value = 0; values > 10.0 may indicate a collinearity problem.

Distribution of residuals of Model 2: Economic growth

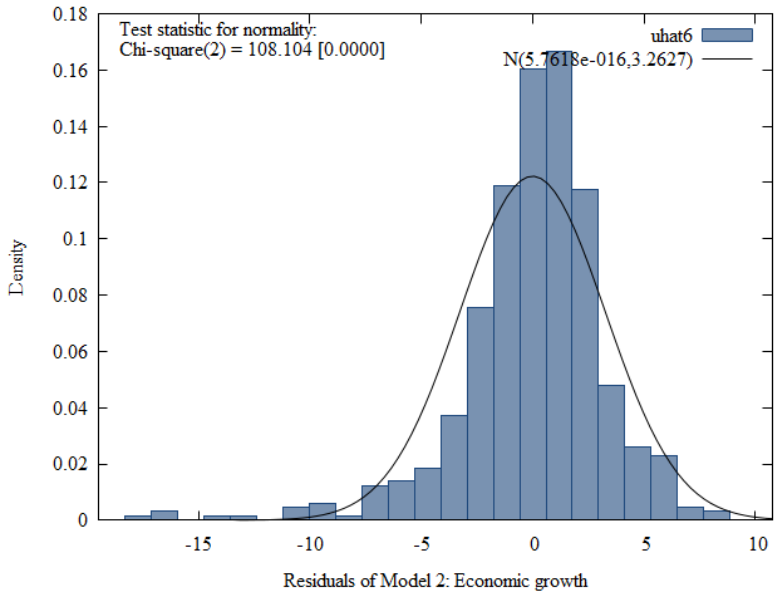


Figure E2. Distribution of Model 2: Economic growth residuals (fixed-effects model)

Squared residuals of Model 2: Economic growth

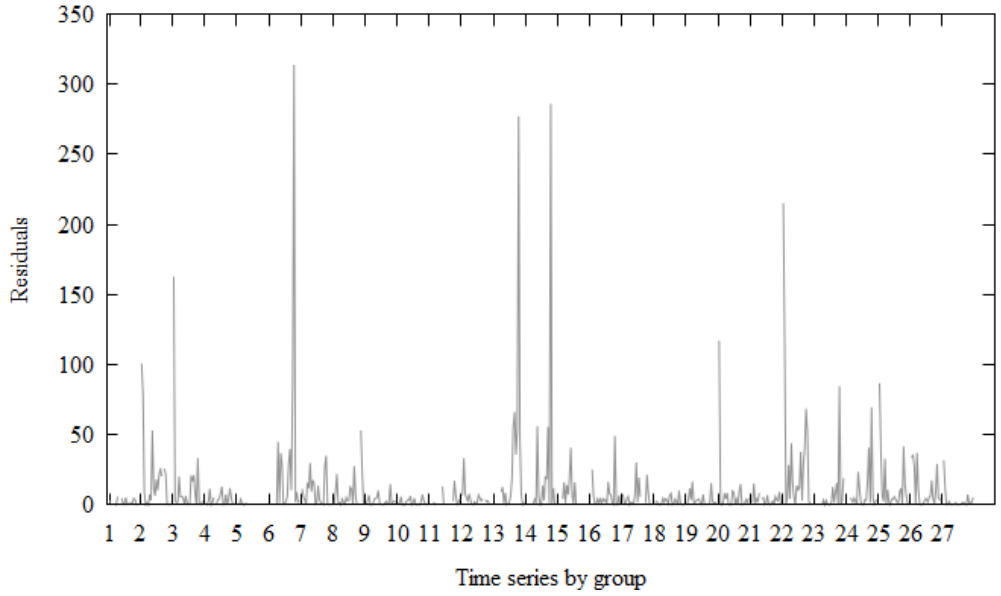


Figure E3. Squared residuals of Model 2: Economic growth (fixed-effects model with RSE)

Appendix F

Panel Plots of Model 1: Absorption and Model 2: Economic Growth

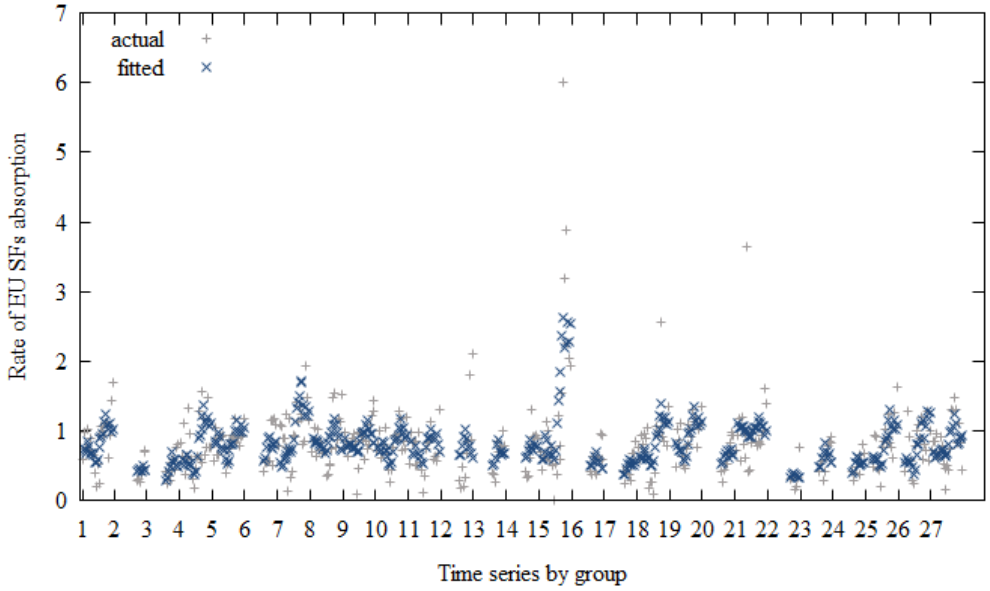


Figure F1. Panel plot for Model 1: Absorption (fixed-effects model with RSE)

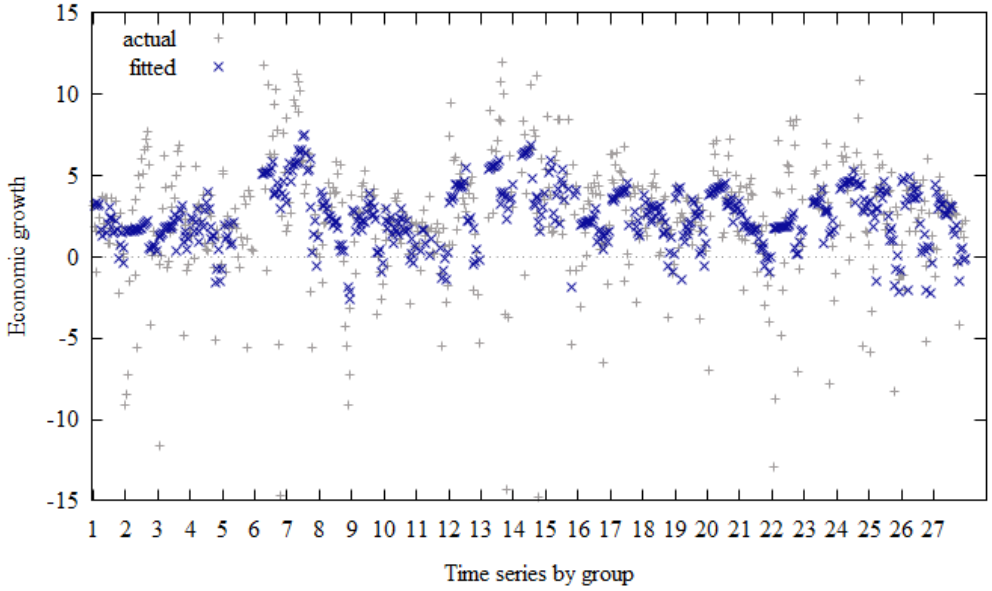


Figure F2. Panel plot for Model 2: Economic growth (fixed-effects model with RSE)