Dependency and Development in Central and Eastern Europe's New Capitalist Systems

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Abstract

This thesis tackles the puzzling developments in higher education (HE) in 10 countries of Central and Eastern Europe (CEE) since 1989. Enrolments increased up to six-fold in the next twenty years. One would expect this story to be matched by an equivalently extraordinary economic growth trend. However, it is not. Despite broadly similar economic and higher education policies, these countries have diverged from one another and most importantly from the rest of the EU to which they now belong. What are the factors that best explain these developments? Under what conditions do some countries upgrade economically while others do not?

I argue that dependency on foreign capital has been the key factor influencing HE. The CEE countries have become highly reliant on multinational companies (MNCs), given the economic growth strategy of their governments to attract foreign capital. Therefore, skills have developed as a response to the demand from MNCs. The less sophisticated the skills required by MNCs, the less developed these economies have remained. Therefore, some CEE countries have come to operate at a low-skills equilibrium, while others have managed to upgrade as a result of strategic government intervention.

The thesis combines case-study research with cross-national analyses over four empirical chapters preceded by the introduction and followed by the conclusion. The first chapter develops the argument in a case study of Romanian HE. The second chapter moves on to analyse the relationship of HE financing and MNCs in 10 countries by using firm-level data. The third and fourth chapters aim to explain differences *between* and *within* countries in the relationships between the sophistication of these economies and their HE development. The resarch links government partisanship to HE development. This work thus contributes to explaining processes of skill formation, which are becoming of increasingly broad interest to political economists and area studies scholars alike.

Contents

Optimism was justifiable. The removal of the overwhelming apparatus of political control over economic activity could only mean prosperity in the medium term. The Central and Eastern European and former Soviet Union countries were well prepared for rapid take-off: they were industrialized, they had reasonably educated and healthy labor forces, and population growth was minimal. Technology was lagging, but with the free flow of information and Western assistance, that could be overcome. Moreover, there was substantial technical progress in the defense sector that, maybe, could spill over the economy, reinforcing optimistic predictions. Some countries (notably Poland) had to tackle macroeconomic imbalances first, but for that economists felt well equipped. Prosperity was, finally, around the corner (Campos and Coricelli 2002: 1).

1 Introduction

In 1989, eight out of 100 students finishing high school in Romania were going to university. By 2010, this number had increased to 60, due to a steady enrolment increase during the entire period.[1] One would expect this story to be matched by an equivalently extraordinary economic growth trend. However, Romania still registers one of the lowest GDPs in the region, despite having had the most impressive boom in higher education (HE).[2] This picture fits many of the former communist countries that have now become members of the European Union.[3] Most of these registered in 2010 enrolments that had more than doubled since 1989 (UNESCO Data on Education),[4] but have recorded more modest economic growth than initially envisaged by optimistic views of economic transformation as summarized by Campos and Coricelli (2002) in the beginning paragraph of this chapter. In contrast to Romania, other countries of the region have been more successful. Having witnessed an equally impressive increase in HE enrolment, Estonia's economy has boomed during this time, having become a textbook example for economic governance around the world. The cases of Romania and that of Estonia show that the changes in HE enrolment have been associated with economic growth in some countries but less in others.

The limited economic success is well captured by recent Global Competitiveness Reports (World Economic Forum 2013), in which the two newest members of the European Union, Bulgaria and Romania, are listed as undergoing a second stage of development. However, Poland and Hungary are part of the group of intermediary economies, while Slovenia, Estonia and the Czech Republic have joined the group of advanced, innovation-driven economies, in their third level of development. Thus, this thesis tries to unpack the conditions under which some countries upgrade economically while others do not by highlighting the crucial role of human capital for this process. Despite broadly similar political economic histories these countries have diverged from one another and most importantly from the rest of the EU to which they now belong. What are the factors that best explain these developments? The thesis argues that these diverging economic growth trends are closely related to the variation in higher education evolution. *What has determined this variation*

[1] I rely on UNESCO data on *Gross Enrolment Ratio*, which is defined as the total enrolment within a country in a specific level of education, regardless of age, expressed as a percentage of the population in the official age group corresponding to this level of education.

[2] Romania's GDP in 2013 was the second lowest after Bulgaria's. This was not entirely due to its low starting point. In 1989 Poland's GDP was lower than Romania's.

[3] Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia.

[4] This is the latest available data for all countries.

in higher education policies within and across countries?

Most of the CEE countries have surpassed the UK in terms of current HE enrolment. Gross enrolment levels in the UK reached 60% in 2010. The impressive developments in higher education might seem less surprising given their extraordinary context: CEE countries have registered fundamental structural changes, moving during this time-frame from centrally planned and autarkic economies to free and open market economies. Simultaneously, they have embarked on a democratization process that allowed for a shift from an authoritarian regime to a by-now functional democratic one. Hence, the revolutionary shift in higher education (HE) provision fits the overall picture of structural changes taking place in these countries. During this process of change differences between countries have sharpened while the overall region has witnessed increasing levels of education accompanied by a relatively low level of economic growth. Differences in terms of economic performance and education level have existed already before the fall of the Berlin wall but these have increased since 1989.

Prominent work suggests that an increase in the level of skills in an economy is linked to economic growth at the individual and macro level (Goldin and Katz 2009). Research in economics (Glaeser 2011; Lindahl and Krueger 2001; Hanushek and Wossmann 2010), as well as advice from international organizations aimed at helping developing economies to grow, emphasizes the importance of skills for economic success. Hence, we would expect that this general upskilling would translate into growth in all countries of the region. Figure 1 shows that the economies of Central and Eastern Europe (CEE) have started catching up with the rest of Europe further to the north, west and south. Nevertheless, the nominal GPD/capita differences between these two sets of countries have increased from 15,000$ in 1989 to 40,000$ in 2010. At the same time, though, the ratios of their GDPs have increased from 16% to 27% (CEE as compared with Western Europe (WE)). I choose here to concentrate on the empty part of the glass by emphasizing the increase in the differences rather than the percentage catch-up.[5] Data on each of these countries is discussed in more detail in chapter III.

These revolutionary developments in HE in the region and the variation in economic growth and in sophistication of economic activities between countries seem *puzzling*. This thesis tackles

[5]Data retrieved from United Nations Conference on Trade and Development UNCTAD, March 2014.

[5]In Figure 1: Eastern Europe 10 (light grey): Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Romania, Slovenia; Europe 15 (dark grey): Austria, Belgium, Denmark, Finland, France, Germany, Greece, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

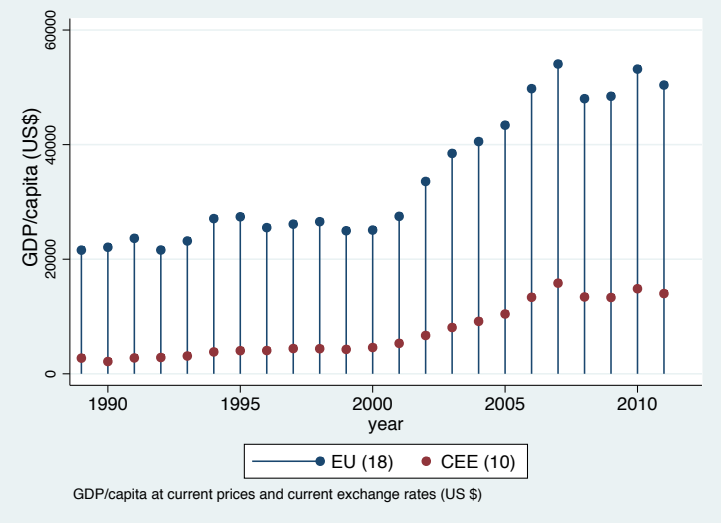

Figure 1: GDP/capita in US dollars in CEE and WE, UNCTAD

this variation by identifying a set of actors that determine both the increasing enrolments and the difference in economic success in these countries. While doing so it also relies on a theoretical model defined in the varieties of capitalism (VoC) tradition. This is the dependent market economy (DME) model adeptly defined by Noelke and Vliegenhart (2009). Drawing from this model it argues that multinational companies (MNCs) play an important role in these political economies and that they also influence the evolution of higher education. Political parties in government are also identified as important actors influencing HE developments by almost unilaterally liberalizing enrolment but by making rather divergent spending decisions. By analyzing the interplay between three key actors: MNCS, HE institutions and political parties in government, the thesis shows that it is *the way in which skills are used* that matters for economic success. An increasing HE enrolment can lead to economic success but it only does so if the skills required are sophisticated. While doing so the research explains variation over time and differences between countries in terms of their education policies.

This introduction proceeds as follows: it first provides a brief overview of the socio-economic developments in the region that it aims to explain, it then presents why this research is relevant and what it contributes to the ongoing scholarly debates, both theoretically and empirically. It also provides an overview of the state of the art in the discipline. It then explains the methodological

foundations, continuing with an overview of each of the chapters of the thesis, before concluding.

2 Motivation

The high expectations at the beginning of the 1990s that the economies of CEE would develop quickly and join the group of advanced, knowledge-based economies are by and large still to be met in many of the CEE countries, as is well captured by Campos and Coricelli, quoted in the opening paragraph of this chapter (2002). Embracing a new way to organize their economies and polities has not brought equal success to these countries. Surprisingly enough, these expectations have remained largely unfulfilled even during the golden years preceding the global economic crisis that started in 2008, when economic growth rates were positive (see Figure 1). Some of these countries seem to have learnt that embracing the rules of the free market economy game, which were zealously promoted by the Western democratic countries and by international financial institutions (IFI), especially in the 1990s (Drahokoupil 2008), is not only insufficient for becoming a successful export-oriented economy, but may hinder their long-term economic performance.

The reasons behind why some of these transition countries have been rather slow in catching up with their Western role-models, while others have been more successful, have prompted a number of studies in the growing literature on Central and Eastern European political economy (e.g. Bandelj 2008; Bohle and Greskovits 2006, 2012; Cernat 2006; Drahokoupil 2009; Feldmann 2006, Frye 2010, Pop-Eleches 2009). Building on the concepts and theories developed for advanced capitalist systems, most prominently by the varieties of capitalism literature and the critiques of this (Hancke 2008 et. al., Hancke 2009), the research on Eastern European capitalism has thrived (for an overview, see Bohle and Greskovits 2009). Frye (2002, 2010) points out the important role played by the polarization of the political parties during economic transition. If political parties did not agree on the general path of economic reforms, then this had a negative effect on economic growth. Bohle and Greskovits (2009, 2012) are interested in the highly complex interplay of forces in a political economy, where in a Polanyian fashion, market forces and social forces act against each other. These approaches could not at times have been more diverse and contradictory. However, none of this work has focused on education and only a few contributions have focused on the crucial role of government in determining these socio-economic changes. This is where this thesis aims to make a contribution.

Achieving economic development and catching up with the advanced economies is the discursive aim of any government, East or West. One formula promoted by policy-makers and IFIs is that opening up to MNCs and, to an even greater extent, spending resources to attract FDI, are key factors in long-term economic development (Drahokoupil (2009) provides a thorough overview of the role of IFIs in CEE, while Pop-Eleches (2009) discusses their role during crises). While this scenario seems to have played out for some countries (such as Slovenia and the Czech Republic), and for certain sectors in a few economies (i.e. the automobile industry in Slovakia and Hungary or the IT sector in Estonia), many of these countries have not managed to reach sustainable economic growth through this strategy. At the same time, increased levels of education have also been shown to lead to economic growth (Hanushek and Wossmann 2010). From a broader perspective, this research tackles questions about the role of MNCs and of governments in economic development.

This thesis aims to explain the intricate relationship between higher education outcomes, foreign direct investment in form of multinational companies and political parties in government. The interaction of these actors has led to different economic growth prospects in these countries. One important building block of this research is that Central and Eastern Europe is a particularly suitable region for studying these relationships. Some crucial factors have determined the choice to focus on a geographic region in a pre-determined period. Some of these advantages ultimately stem from being able to analyze a *relatively* homogenous sample. This allows for comparability of the entities within the sample, which is an essential property not only in quantitative work but also in the controlled qualitative comparisons included in the thesis. Surely, this research does not suggest that comparability can only be achieved within a region.

Several considerations determine the comparability of the CEE countries. First, the region shares a common political economic history: a relatively prosperous and democratic interwar period, followed by the communist experience after WWII and by democratisation and marketisation after 1989. Second, the countries have opened up to foreign capital relatively simultanously after 1989. These CEE economies are more internationalized than most other developed economies as of 2012, being more dependent on foreign capital than any country in Europe, except for Luxembourg. Detailed data on this is presented in Chapter II. Therefore, a compelling motivation to study the impact of foreign capital on human capital formation in CEE is the heavy dependence on foreign capital of these countries. Hyperbolically, they can be considered the most suitable environment to

study what awaits the rest of the world over the long run.[6] Third, both the democratization and the marketization processes have been largely supported by international organizations and developed western European countries relatively simultanously. This allows us to (partially) discount these influences in the comparative analyses of these countries, as they have all been influenced by these processes. Fourth, the countries analysed have all been part of a Europeanization process, including membership to the European Union, which deeply influenced the HE evolutions of interest to this thesis. Fifth, education policies during communism and in the postcommnist period have been largely similar. Sixth, while the previous five factors do point to broad similarities between countries, there has been great variation in HE outcomes and economic sophistication. This variation is being exploited in this research.

Analyzing the links between MNCs, HE institutions and economic growth is a complex endeavour. This is the reason why several types of analyses are included in the thesis, trying to link the three corners of this triangle. This is achieved by shifting the unit of analysis from the region, to the country and further to the firm, individual voter and political party. First, the approach focuses on the entire CEE region and on trends characterizing the region. Second, the thesis differentiates between countries, trying to identify the sources of variation in their higher education policies. Therefore, cases are chosen from within a region but the choice of cases is not geographically determined. This is consequential for the generalizability of the results. The lessons drawn from these analyses are relevant beyond the geographical and historical boundaries covered empirically. This is explained further below. At the same time, this thesis fills an intellectual void on the political economic determinants of education policies in CEE.

3 Theoretical Foundations

This research draws on diverse intellectual traditions and this diversity stems from at least two sources. First, the explanation advanced here accounts for a variety of institutions, such as institutions of skill formation, partisan politics as well as the rich literature on MNCs. Therefore, I engage in debates surrounding research on these institutions. Second, the theoretical, and hence also the methodological, debates in comparative political economy have intensified over the years,

[6] I am thankful to Laszlo Bruszt for raising this point to me. Pikety 2014: 29 uses the same type of argument for explaining the choise of France as a case study. France faced a demographic transition ahead of other countries.

which underlines the importance of a methodologically sound approach. This also increases the breadth of methodological work that this thesis engages with. Drawing on diverse types of work that are at times fundamentally critical of one another, this research aims to reconcile apparently antagonistic theoretical traditions. This is explained in more detail in the following.

The thesis engages closely with literature on the region and with global debates in political economy. It builds on them constructively while venturing into untapped territory rather than fundamentally disagreeing with existing work. As carefully pointed by Hancke (2009), an important feature of a novel theoretical and empirical approach is being able to locate it in the discipline. This is emphasized below while showing how this research borrows from diverse theoretical approaches and how it embraces theories and methods across subdisciplines.

3.1 Skill Formation in Comparative Political Economy

This research aims to contribute to the literature on institutional political economy, as broadly defined. It builds critically on the *varieties of capitalism* (VoC) literature. In its initial formulation, the VoC literature argued that we can distinguish between two different forms of capitalism: the liberal and the coordinated varieties. These two varieties are each characterized by comparative advantages in the world economy, for example each type of economy is prone to be a hub of innovation, radical in the first case and incremental in the second. By putting the firm at the centre of analysis, the VoC literature argues that different coordination mechanisms characterize each type of capitalism and that by analysing the ways in which firms behave in relation to important institutional actors one can derive an understanding of how these political-economic systems work as a whole – this is understood almost ontologically. Differences between these two forms of capitalism are established early on, already at the level of the education system – the focus in this literature is on vocational training –and these socio-economic systems are seen as evolving differently depending on these early-established differences. Two main insights are drawn from this approach, which are further explored: the relevance of firms and their relation to education. This thesis is different in that it focuses on multinational rather than on domestic firms, and on higher education rather than on vocational training.

Skill formation is slowly capturing more of the attention of political economists and is an extremely important building block of this research and, in essence, of the VoC approach. The

main argument of scholars of skill formation is that the way in which firms and individuals adapt to their environment is determined and - at the same time - consequential for their training decisions, for their individual investments in education and for their preferences towards the welfare state or redistribution (See for example Iversen and Soskice 2001). This is important in itself as the incentives of individuals to invest in skills will, on the long-run, be consequential for economic growth as well. Moreover, these individual incentives could be translated into policy through the representation of these interests in government. This is what makes the analysis of the electoral determinants of human capital formation so important. However, most existing literature focuses on developed economies (Ansell (2010) also focuses on the rest of the world) and the present study will begin to fill the gap by focusing on Central and Eastern European countries as an example of upper-middle-income economies. Moreover, "the varieties of capitalism debate provides an appropriate access route to studying these complementarities between education, welfare states and political institutions" (Busemeyer and Trampusch 2011).

This research has found that the institutions of interest: HE, MNCs, and political parties in government, are complementary. However, one legitimate target of criticism of the VoC literature has been its complementarity claim (Crouch et al. 2005). Therefore, the theoretical approach is agnostic about the nature of the links between the institutions discussed – HE, MNCs, governments. Nevertheless, the empirics have revealed that the changes that have taken place in the different policy areas considered did not take place in a vacuum. Rather, they co-evolved - which is a sign of institutional coupling. While analysing the higher education market in Romania, I became aware that at the same time as the education market was liberalizing, state-owned enterprises were being privatized. Put differently, we should not be surprised that the education market became highly liberalized, when similar developments were taking place in other sectors of the economy, such as the privatization of state-owned enterprises. No matter how simple this argument, it is a surprisingly new development in the scholarly work in the field. Being able to point towards this co-evolution is an important contribution in itself.

Moreover, complementarity tends in the VoC literature to have some positive connotations. As this thesis argues extensively, these complementarities can also be negative, with different institutions dragging one another down as is the case in the Romanian DME, which is characterized by a low-skills equilibrium. This research also considers the possibility that some complementarities are

not self-reinforcing or that certain elements in the system do not reinforce one another and may even be contradictory. Moreover, the evolutions are not always linear - as the case of the Orban government after 2010 in Hungary clearly shows. The empirical chapters provide more details on this front.

Going further, an appropriate criticism of certain formulations of the varieties of capitalism literature is that it is functionalist. Pierson (2004) provides an excellent and intuitive discussion of functionalist theories more generally by arguing that explaining the emergence of institutional arrangements through their envisaged consequences is problematic. He is wary of "the sizable time lag between actors actions and the long-term consequences of those actions". "Thus the long-term effects of institutional choices, which are frequently the most profound and interesting ones, should often be seen as the by-products of social processes rather than embodying the goals of social actors (Paul Pierson 2004: 14). Therefore, the thesis pays close attention to the important differences between *anticipated* effects and *actual* effects. Thus, this research should be distinguishable from a functionalist interpretation of the world.

3.2 Dependency Theory in Eastern Europe and Latin America

The way in which the concept of the *dependent market economy* is used and redefined in this thesis could perhaps be misleading and so requires some clarification. Dependency stems from reliance on capital from abroad through MNCs and the inability (or very limited ability) of the domestic sector to further capitalize on this foreign capital. I build this argument on the initial formulation of the dependency theory: From the economic point of view a system is dependent when the accumulation and expansion of capital cannot find its essential dynamic component inside the system" (Cardosso and Faletto 1979, Preface XX). The exodus of high-skilled individuals from the economy reinforces this dependency. However, it is not *the degree of dependency* that is relevant for the economic setup (and so for our model), but rather *the effect this dependency* has on the sophistication level of the domestic market more generally. Here, several explanations are needed. Noelke and Vliegenthart (2009) point out that dependency is important and that it determines the average level of economic sophistication. Nevertheless, they do not provide thorough causal explanations of the ways in which individual incentives are determined by this dependency. The effects of this dependency is more profound and far-reaching than simply determining the types of

goods and services that are produced. This is what this thesis aims to further disentangle.

The high reliance on foreign capital should not come as a surprise given the many interdependencies that exist between the domestic economies of advanced capitalist countries. They too are dependent on MNCs, on IFIs, on cross-border migration or on the supply of and demand for goods and services that originate outside their own markets. However, these transnational exchanges of goods and services do not seem to systematically weaken either of the markets involved, or to keep one of them at a low level of sophistication, because this is a mutual exchange, an interdependency. Therefore, the argument for the prevalence of the DME model in CEE rests not on the fact that a Central or Eastern European economy has more MNCs than, for instance, the UK, but that the effect of these MNCs on a CEE country is rather perverse, which is (arguably) not the case in the UK.

One stream of literature that relates to the DME model, at least as far as the terminology is concerned, is that produced in the 1970s by the dependency school. This literature questions the positive effects of MNCs in developing countries (Cardosso and Faletto 1979; Evans 1979). Bohle and Greskovits (2012) rely on this literature when correctly criticizing the DME model as formulated by Noelke and Vliegenthart (2009) for not accounting for the lasting scarcity of human capital, which they theorized as characterizing the Latin American countries. The present thesis seeks to account for this weakness. Moreover, the DME model does not imply by default a world order in the Wallerstein (1974) tradition, divided between core and periphery, in which the DME countries represent a (semi-) periphery. However, some versions of the DME model may allow for an interpretation consistent with this worldview.

3.3 Central and Eastern European Approaches to Political Economy

Some of the contradictory approaches to the Central and Eastern European political economies identify the initial types of coordinated market economy (CME) and liberal market economy (LME) proposed by Hall and Soskice (2001), while others propose new ones founded on diverse considerations. In a study of Central and Eastern European capitalism, Mykhnenko (2007) concludes that CEE countries show combined features of both CMEs and LMEs. Similarly, Buchen (2007) finds resemblances to both the LME and the CME types.

At the same time, important work has pictured a more nuanced role of foreign investors in

CEE focusing on labour and industrial relations. Hancke (2011) identifies conditions under which MNCs contribute to the production of collective goods especially through cooperation facilitated by chambers of commerce. In those circumstances, MNCs also contribute substantially to improving the industrial infrastructure. Bluhm (2001), in an analysis of German small and large firms active in the Czech Republic and Poland, finds that firms do a selective transfer of vocational training programs in the country of destination.

Cernat (2006) builds on the classification system proposed by Rhodes and van Apeldoorn (1997), adding to the developmental types and coining, for Romania, the category of "cocktail capitalism". Political actors receive agency in this model (unlike in the initial VoC formulation) and Cernat stresses that it is not only the institutional choice of one model that matters, but that the consistency of that choice determines the performance of economies. In a 2007 article, Bohle and Greskovits identified three distinct (non-LME/CME) transnational capitalisms in Central and Eastern Europe: a neoliberal type in the Baltic States, an embedded neoliberal type in the Visegrad states, and a neo-corporatist type in Slovenia. They build on a theoretical framework derived from Karl Polanyis *Great Transformation*(1957), which is concerned with the fundamental conflict between market efficiency, social cohesion and political legitimacy. This approach overcomes some of the criticism that the initial VoC formulation has received, such as for its inability to explain institutional change. In this formulation, change occurs as a result of these conflicting forces in the market.

Each of these proposed models emphasizes different logics according to which these economies work and the different categories are embedded in diverse intellectual traditions. What seems to emerge from these diverging interpretations is that the existing theoretical framework has limited appeal for providing understanding of these transition economies. This in turn enables and calls for further research to focus on exploring new frameworks that may have a closer fit with the developing economies of CEE.

In 2009 Noelke and Vliegenthart argued that it was the external dependency of the region that was the central characteristic of CEE. They propose a third basic variety (complementing the dichotomous framework of Hall and Soskice (2001)), a dependent market economy (DME) that captures the characteristics of the region. At the same time, Ben Schneider (2009) and Sanchez Ancochea (2009) identified a hierarchical market economy (HME) in Latin America.

Put very schematically, DMEs show institutional complementarities between skilled, but cheap, labour, the transfer of technological innovations within transnational enterprises, and the provision of capital via foreign direct investment (FDI). Given the central role of FDI, both investment and corporate governance are controlled by the multinational companies (MNCs). The local subsidiaries of these MNCs in Central and Eastern Europe are financed internally within the company and innovation within these MNCs is transmitted top-down within the hierarchies of the company. DMEs are used as assembly platforms for innovations made at headquarters. The subsidiaries of MNCs in developing markets will not be in favour of a generous public education system, or in favour of substantial investment by their company in innovation-relevant skills.

4 Research Contribution

The novelty of the approach of this thesis is that it focuses on the similarities between these new political economies: they have all inherited political-economic institutions specific to planned economies, the evolution of their higher education systems has been largely similar, while all had little previously accumulated domestic capital. Whereas previous work has focused extensively on the divergences between these economies (a prominent example being Frye (2012), Hancke 2008), this contribution begins its study of this geographic area with the features that build a common denominator. The DME model proposed in this research is understood in a Weberian sense: it is an ideal model that simplifies complex socio-economic reality. Once having explained the specificities of a DME and how they characterize the countries of the region, the thesis moves on to explore differences between countries, trying to explain the determinants of the different outcomes.

4.1 Redefinition of the DME Model

In terms of theory development, this thesis adds to a typology, by developing a type, *a* variety of capitalism, that it uses as an analytical tool, as proposed in the work of Collier, LaPorte and Seawright (2012). The research thus contributes to the important debate about how to classify political economic modes of organization. It builds on a model of the economy: the DME model. One form of the DME model that is fully explored rests on a case study of Romania. Further, the thesis considers the variations on this model in order to explore its usefulness more generally. The important added value of developing a model within a typology lies in the fact that it brings order

to complexity. Further, this model adds in two ways to the literature on varieties of capitalism. First it shows that the dichotomous framework offered by Hall and Soskice (2001) is limited in various ways, especially when intended to characterize CEE. It then builds critically on the third variety proposed by Noelke and Vliegenthart (2009), that of the dependent market economy. I argue that the DME model can be improved in at least three ways.

First, the DME literature has paid no attention to politics. Nevertheless, it is important to understand the role of governments in reinforcing the dependency of the economy and the ways in which it can contribute to breaking this vicious cycle. Political parties in government have a determining influence on the higher education system through mechanisms regulating enrolment and funding. Governments played a key role at the beginning of the transition process by deciding to liberalize the higher education market and to privatize state-owned companies and they continue to play a major role through the same financing and regulatory mechanisms. Moreover, as has been pointed out (Bessley and Persson 2010; Iversen and Soskice 2009; Streeck 2009; Schmidt 2009), governments have a determining role in any type of political economy. With reference to CEE specifically, we need to understand whether, and to what extent, the fall of the communist regimes has been disruptive to the states ability to foster economic development.

Second, the DME model has not yet developed an analysis of higher education, of research or of training and its role in the production of economic growth. Yet this is central if the DME model is to be vindicated. There is a wide agreement that the communist countries in Eastern Europe delivered good higher education, especially in technical subjects. Nevertheless, they do not seem to have managed to preserve this advantage in the years since 1989. This research will elaborate on the mechanisms that have determined the increase in enrolments in higher education, while funding has lagged behind. This has led to a partial deterioration in the quality of higher education. This thesis provides an account of the possible explanatory factors and of their role in the overall economy.

Moreover, while in the VoC literature attention is focused on vocational training, in this type of economy the higher education system is the central element. This shift is motivated both theoretically and empirically. There are three reasons for this shift of focus. First, at the conceptual-theoretical level, the capacity of these economies to upgrade will depend on their ability to foster economic development through services as well as through manufacturing industries that depend

on the presence of marketable "high skills". These skills depend almost entirely on the output of universities. Hence, HE plays a similar structural role to that of vocational training in the classic VoC formulation by virtue of its potential to enable economies to develop comparative advantages in the world economy. Second, at the empirical level, enrolment levels in vocational training in CEE have decreased significantly since the shift to a market economy was made, and vocational training has almost perished. Thirdly, and to some extent complementarily to the developments in vocational training, enrolment levels in higher education institutions have increased considerably during the same period, in both absolute (number of degrees/years) and relative (gross enrolment ratios) terms.

The third contribution to the model highlights that the promising literature on the DME does not provide any analysis of migration, either emigration or immigration. Nevertheless, migration , both temporary and permanent, seems to greatly reinforce the dependency of these economies. I argue that the movement both in and out of the highly skilled proportion of the population is important for the development of a country towards becoming one of what the World Economic Forum calls the *innovation-driven economies*, and that it must be included in any analysis of an economy (Docquier 2006, Sasse and Thielemann 2005). It seems that the trend of emigration by high-skilled individuals underpins the decline in the quality of higher education. While there have been some studies of low-skilled emigration from Eastern Europe (e.g. Alexe 2011), we have limited knowledge about the dynamics of high-skilled individuals. This thesis analyses the extent to which the trend of emigration by highly skilled individuals underpins the decline in the quality of higher education.

The original insights of the DME are powerfully reinforced once these three factors are understood. This is precisely the direction in which my research project is heading. It aims at rounding up and strengthening the DME model. I see the inclusion of three institutions – Higher Education, Employment Destinations and Political Actors – as the most important contribution to the DME model and of this thesis more generally. At the same time, I also provide some explanations regarding the dynamics of migration by the highly skilled. This novelty is complemented by the (re-) introduction of the micro-foundations of the model (which is also the cornerstone of the varieties of capitalism literature more generally and discussed in the methodology section of this introduction) and by a discussion of the origins of this DME model.

What makes the approach of this thesis unique is the fact that it studies in association institutions that are not usually studied together in political science. HE institutions and their outcomes are usually not analysed as being determined by firms active in the economy, such as MNCs in the particular case of Central and Eastern Europe, nor by the political orientation of the government in power, and even less so by their combined effect. This thesis engages in a new research avenue in comparative political science, as it is only in recent years that scholars have started being more concerned with questions regarding the relevance of political variables in the development of education policies (Ansell (2010) and Busemeyer and Trampusch (2011) provide an excellent overview). Whether and how the composition and nature of governments matters for education spending or for its institutionalization, i.e. enrolment levels or expansion, are all questions that have become in recent years part of the research agenda of comparative political scientists, but research on these questions in relation to the countries of CEE has been almost absent.

Moreover, the research makes a contribution to comparative politics literature more generally by emphasizing the role of political parties in new democracies. Scholarly work focusing on new democracies in CEE has not provided political parties with agency when enacting economic reforms or reforms targeting education systems. Political parties have been almost abstent in varieties of capitalism approaches as well. Extremely valuable and interesting work has been done on the party systems in CEE (Grzymala-Buse 2007, Tavits 2009) drawing heavily on previous work on highly industrialized countries (Caramani 2000, 2004, Mair 1997) and this thesis links this work to political economy literature. This thesis emphasizes the role of political parties while trying to explain the differences between them. The fourth chapter of this thesis provides a more profound analysis of this matter.

4.2 Mapping Central and Eastern European Political Economies

Three exercises in *mapping* these political economies are conducted here. First, I show how well these regional economies in general, and each of them in particular, fit the DME model. Second, I also note how these economies compare with a surprisingly similar set of countries in Latin America, thus putting the findings in a global context, and, third, I attempt to contextualize these findings historically by speculating about their origin. Given the belief that institutions need the continual political support of important political stakeholders in order to survive in the long term (Hall and

Thelen 2009), institutions for skill formation are also analysed historically in order to understand how they have been defined and re-defined.

Recent work on the capitalist diversity of the Central and East European countries has quickly moved in the direction of contrasting the differences between them (Frye 2011; Bohle and Greskovits 2012). While this direction of research has been particularly relevant, the most striking common element seems to have been forgotten. Each of these countries started its profound transformation from a (variety of) planned economy. This common characteristic is so obvious that it is easily overlooked. This research moves in the direction of depicting the consequences that derive from the common heritage of these economies. These countries all democratized and moved to a market economy simultaneously and relatively quickly (Offe and Adler (1991) discuss the triple challenges of democratization, marketization and maintaining welfare provision).

At the same time, this research attempts to put the DME model into perspective. It includes discussion of its origins and its relationship both to the literature on dependency more generally and to the hierarchical market economy (HME) model specifically. The HME model has been portrayed as characterizing Latin American countries (Schneider 2009). The varieties of capitalism literature also points, though not explicitly, towards similarities between the Latin American and the Central and Eastern European capitalist systems. Ben Schneider (2009) developed the hierarchical market economy model at the same time as Noelke and Vliegenthart (2009) developed the DME model. In the HME formulation, domestic business conglomerates play an important role. A fruitful avenue of research would be to further study the commonalities and differences between these different sets of countries.

Another relevant aspect of the DME model that has remained unexplored is its origins. Relevant research on the origins of capitalist systems – be these coordinated or liberal – includes substantial book-length studies (especially the works of Thelen (2004) and Streeck (2009)) such as this thesis cannot aim to achieve. However, this research touches upon the possible combination of factors that has led to the emergence of the DME model in CEE. It also aims to allow for an understanding of institutional change and the direction of this change. Whether the governments were unable or unwilling to steer these economies on a developmental path like that of the East Asian countries is a matter that still needs to be discussed and this thesis engages in this debate. What is certain, though, is that the governments of these countries have been active promoters of this developmental

strategy.

4.3 Determinants of Higher Education Development

This thesis challenges existing wisdom about the role of political parties in new democracies and in public policy decisions. The role of political parties has been largely neglected in literature on political economy focusing on CEE (with the notable exception of Frye (2010)). Why do some governments spend more on HE than others? Do they respond to citizen's concerns when doing so? What are the consequences of these decisions? I here contribute to the extremely valuable work of Tavits (2009) and Gruszmala-Buse (2004), but I do so in a larger framework and with a strong emphasis on public policy. It tries to disentangle the interactive effect of foreign capital in form of MNCs with partisanship of the governments in each of these countries.

This is the reason why one could argue that this is yet another attempt to understand the model of the economies in Central and Eastern Europe and the factors that, on the one hand, have held them back from becoming more successful and, on the other hand, have enabled them to develop sufficiently to become part of the European common market. I argue that, in order to advance a powerful analysis, we need to develop a better understanding of the causality processes that are present in this type of economy and this is best done by focusing on human capital formation.

Most importantly, the thesis engages critically with the tension between holism and individualism in political science. It engages with analyses at the micro-, mezzo- and macro-levels. It relies on a diversity of methods to analyse all these levels. In other words, while the problems associated with the ecological fallacy are well documented, the overemphasis on the micro-level, also made possible by the capacity to collect data at the microlevel more easily, might lead scholars to disregard the extent to which these micro-level relationships are aggreggated at superior levels. But most importantly, the advantage of these diverse methods is that it allows to be able to check the extent to which relationships at each of these levels add up. So, many of the aspects of each of these methods are imperfect, but they can and they do complement each other as more fully explained below.

5 Research Methodology

Methodologically, this research follows career incentives, i.e. incentives for individuals to invest in education or to make decisions regarding their employment destination (i.e. abroad/domestically; private/public). The focus lies at the micro level, while the interest lies in the individual incentive structures of students, employees, migrants and companies (both domestic and foreign). The rationale for choosing this perspective is not only methodological, but most importantly conceptual. One main assertion of this thesis is that all arguments made at the macro level should be verifiable at the micro level. These arguments are partially tested using microdata, where such data is available. This micro-level approach is completely new to the DME model. Analysing the world from the perspective of the individual shifts the focus of analysis radically and offers a new perspective on this political economic model.

The literature review just presented allows for an understanding of the different descriptions of the political-economic systems of the 10 countries. It argues from existing literature that the DME model seems best able to explain the developments in CEE (i). My research then further explores how the DME model is applicable more broadly across the region. The possible explanations are further explored in a case study. This leads to concept formation in the within-case analysis from Romania (ii). Hence, the DME model is re-formulated by accounting for additional variables. The research proceeds with a partial formalization of the model as part of the theory-building process (iii) and with testing some of the hypotheses derived from the case study within a quantitative framework. The thesis also enquires how the model can evolve further (iv). All these four steps of the analysis are described in the research design.

The four steps of this mixed-methods strategy are easily identifiable on the methodological map proposed by Lieberman (2005) for what he labels a *nested analysis*. The first step proposed by Lieberman is a preliminary large-n analysis, in which some pre-existing theoretical claims are tested. Given the nature of this research, namely that it seeks to improve an already complex model within a classification system – the DME model as a new variety of capitalism – the preliminary step is indeed a large-n analysis, a review of the existing explanations for the puzzle that motivates the research. This preliminary analysis reveals firstly that the DME model provides a promising avenue and secondly that it is not sufficiently developed (i). In order to build a more persuasive model and to form new theories, an extensive case study is conducted (ii). The conclusions derived

from the case study also allow for some non-empirical formalization (iii). Some of these newly formulated hypotheses are then tested within a large-n analysis and in a comparative case studies design (iv).

To reiterate the research question, *under what conditions do some governments improve their HE policies while others do not? Despite broadly similar political-economic conditions policies these countries have diverged from one another. What are the factors that best explain these developments and what have been the consequences for economic growth?* Formulated in this way, these research questions demand a complex methodology. This is also why several smaller research questions, each tackling some puzzling developments, are considered in each chapter. The more complex methodology is an acknowledgment of the weaknesses of each of the methods, and of data paucity in terms both of existing academic literature and of reliable national and cross-national surveys on each of the institutions. This research design should allow both for careful process tracing and for a cross-sectional confirmation (or invalidation) of the hypothesized relationships.

Thus, this thesis aims to reveal both the *processes of interaction* in a DME and their *outcomes*. The small-n analysis and the large-n analysis are employed complementarily and each has a different logic and aim: hypothesis formulation and hypothesis testing respectively. In terms of structure, the first chapter provides a historical institutional analysis of the Romanian political economy, while some hypotheses are tested cross-nationally in the second chapter. The third and fourth chapters combine analyses of the entire sample with case-study work.

5.1 Case Study of Romania

A more comprehensive explanation of the DME model requires a thorough understanding of the mechanisms that link the relevant institutions in the economy. This in-depth familiarization can only be achieved if all the critical aspects are accounted for. The most suitable approach for developing a rigorous analysis while accounting for all alternative explanations is that of an in-depth case study in which the nuances of the relationships between institutions can be well understood and tested for. The Romanian political economy provides a good context for analysing the complexity of a DME because we would expect *to see the DME model particularly clearly in this crucial case.* The case selection was deliberate: Causal inference in the nested approach does not rely solely on the small-n portion; the standard pitfalls of selection bias are less likely to lead to faulty inferences"

(Lieberman 2005: 446).

There are three major reasons why one can reasonably assume that the particularities of the DME are most likely to be identified in the Romanian economy and why this case can be considered a paradigmatic case of a DME. Firstly, the economy continues to be relatively unsuccessful, with the Romanian GDP per capita being the second lowest in the European Union (after Bulgaria), but higher than that of the neighbouring countries further east. Secondly, the share of MNCs has considerably increased in the last five years (while the share of domestic companies in GDP has fallen), with the largest MNCs accounting for important shares of GDP. The proportion of people employed in MNCs, out of total business employment, reached 25% in 2011 (Eurostat FATS Statistics), this share is the second highest in the EU, after Luxembourg. Thirdly, the main means of raising capital is through FDI, with the Romanian government continuing to promote this as an adequate source of investment, amongst others, also for the privatization of state-owned companies in the energy sector. Therefore, this thesis uses the so-called *inductive typical-case selection strategy* (Gerring 2007: 91). Most importantly, as we have already noted in the introduction to this chapter, enrolments in HE institutions have increased most, while the GDP has lagged behind.

We note that, importantly, when conducting a case study one does not try to impose large-n analysis thinking, but allows for exploration and experimentation within the case study. This approach develops along the lines proposed by Lieberman (2005), Collier et al. (2012) and Goertz and Mahoney (2012). The causal analysis allows for more depth than breadth and, as Lieberman (2005) argues, a single case study allows for more leverage than several thinner case studies. Some less comprehensive cases of this kind are provided for illustrative purposes in Chapter III and Chapter IV of this thesis. The weakness of the case study is that it does not provide external validity, and choosing one more case will not improve this. The large-n analysis will provide this external validity, so the two methods are complementary. The case study serves two purposes: to formulate hypotheses and to provide internal validity. Internal validity is achieved through the ability to account for all the different factors that may affect the outcome of interest. External validity, i.e. the generalizability of the findings to the population of 10 countries, is assured in the cross-sectional analysis.

The study of Romania is *a* case study because we treat the country as the unit of analysis. However, in this economy several institutions are considered and the unit of analysis changes in

some of these explorations. This is so because I aim to show that some macro-level processes can also be tested at the micro level. The primary aim is to offer a more complex picture of the web of interdependencies that describes the link between the relevant political economy institutions in a DME. At a second stage, the purpose of this thesis is to show that this model holds in contexts in which we encounter the same conditions, and therefore that the processes of development unfolding may likely be applicable not just to Romania but more generally.

Data collection through interviews in Romania was conducted on several research trips in two geographic areas: in the capital, Bucharest, and in Sibiu, a medium-sized town in the central region of Transylvania. Semi-structured interviews were conducted at three points in time between April 2011 and September 2012, so over a period of one and a half years (eight interviews in universities, eight with representatives of non-governmental and governmental institutions, six in private companies). In both cities, there exists a concentration of MNCs as well as of domestic firms, and of private and public universities. The selection of interviewees covered the most relevant actor categories: professors engaged in academic activities in public and private universities, students, and young employees, as well as employees in human resources (HR) departments or working in human resources companies, domestic and multinational employers, as well as representatives of think tanks and employers' associations. I interviewed people working in different areas. I crosschecked information with the aim of reducing non-random error and bias in selecting the interviewees. This data collected through interviews is triangulated with publicly available micro- and macrodata as well as with secondary literature as part of the data analysis process.

Carrying out interviews with people in different positions within the hierarchy of their institutions revealed different types of information. Persons at the top of the company hierarchy tended to have more information, and to have a better understanding of the company and the market in general. They were particularly knowledgeable and had experience of providing information to outsiders. The most important challenge that emerged when interviewing them, though, was that they tended to formulate answers with the aim of promoting a given goal, most typically to provide an idealized picture of their institution, and not an accurate picture of how things worked.For example, when they were asked about the quality of the qualifications of graduates, the answer that managers provided was that they had better applicants every year. When I interviewed HR employees lower down the hierarchy, the ones actually doing the hiring, they tended to contradict

this view. Especially when not being audio-recorded and when talking about specific aspects of the hiring process, they revealed a grimmer picture. It was necessary, therefore, to balance the number of interviews with employees in management positions and with employees lower down the hierarchy.

The fieldwork revealed that changes in one sector, such as the liberalization of the education sector, were also reflected in other areas, such as the privatization of state-owned enterprises. This points to the *co-evolution of the different institutions* that are of interest for this paper and described as characteristic of the DME model. This raises a series of questions about the causal mechanisms at play during the processes of co-evolution dealt with in the empirical chapters. The DME model presents a myriad of interconnected institutions and highlights some causal relationships between these. Given that this research rests entirely on observational data, I decided to use analytical narratives as building blocks of causal inference. I conduct a historical institutional analysis for observing critical mechanisms. These are presented in the first, third and fourth chapters. This research approach is also encouraged by Goertz and Mahoney (2012) who encourage the intensive process tracing of selected cases as a complement to large-N research in contexts where experiments are impossible. At the same time, another extremely important feature of the qualitative analysis is that it implies a detailed examination of the empirical material and weighting the argument in light of the different theories (Hancke 2009).

5.2 Cross-national Analyses

Despite being able to capitalize on the strengths of a case study, the thesis also relies on the comparative cases approach, analysing the cases of Hungary, Poland, and Estonia. The case study in the first chapter on Romania entails several implicit comparisons. Then, in the third chapter, relying on Mill's method of similarity and of difference, the thesis moves on to explicit comparisons, thus increasing analytical leverage (Hancke 2009). These case studies complement the findings and allow for controlled comparisons (Slater and Ziblatt 2013). The third and fourth chapters ask questions regarding the ability of some of the 10 CEE countries to upgrade, to move up the ladder of economic sophistication. Both chapters follow a similar methodological approach, they each combine statistical analyses of macro-level indicators with case studies interested in capturing the causal mechanisms linking these institutions. The analyses zoom in on the mezzo level, the sectoral

differences between countries in employment, production and higher education.

At the same time, as explained in detail, the conducting of interviews was limited by the ability to select companies that were representative of the entire market. Other problems encountered, and that are specific to this type of work, were: i) the representatives of some of these companies seemed rather unavailable, and ii) the employees interviewed were rather reluctant to make claims that might not be in line with their company's policies (especially if these companies were MNCs). This data is complemented by survey data from the Business Environment and Enterprise Performance Survey (BEEP) conducted by the European Bank for Reconstruction and Development (EBRD) and the World Bank. This allowed me to deal with the first difficulty, that of interviewing a representative sample. BEEPS provides data on companies at four moments in time: 1999, 2002, 2005 and 2009. This data is analysed in the second chapter of the thesis.

The statistical models used in this study for the analysis of employment destinations distinguish country, year and firm level. This type of model allows for the use of country-fixed effects for the 10 countries under scrutiny and allows an exploration of the variation in skill level across countries and its effects on attracting MNCs to the respective domestic economies. The statistical analyses model firms behaviour in accordance with the hypotheses formulated from the DME model and further explored in the qualitative analyses. Nevertheless, when using off-the-shelf datasets, variables may not actually measure what the theory describes (Lieberman 2005: 443). This trade-off of representative cross-national sample with approximate questions vs. precise questions through self-administered questionnaires was solved by combining the two approaches.

While in essence each research technique is imperfect, complementing them allows to account for some of their weaknesses. The case studies are not representative, while the data on companies does not allow detailed analyses of all the nuances of the argument. I decided that the precise outcomes were satisfactorily observed in the case study: "case studies offer detailed insights into mechanisms, motives of actors, and constraints they face at particular moments which no other method [...] can offer " Hancke (2009: 61), while the questions from the surveys could be used as approximations. Thus, I could not capture the value added by HE degrees through surveys, but I could find out whether MNCs did indeed employ more people with HE degrees, and what the consequence was. I considered that combining these strategies was a good way of dealing with these shortcomings.

5.3 Conclusions on Methodology

This thesis aims to overcome the methodological divide between the quantitative and the qualitative paradigms. It combines analytical narratives with large-n cross-sectional analyses. Its strength lies in the fact that the two approaches reinforce each other, so together they should be more meaningful than either separately. The level of analysis shifts from one level to another: from the country level to the sector and the firm level. Given my understanding that a good social science theory should not merely predict a particular relationship between independent and dependent variables, but it should also explain how and why these factors are related to one another (Lieberman 2005: 442), I have tried both to explain outcomes and to analyse them systematically.

The qualitative analysis - both as a single case study as well as a qualitative comparison - has important advantages - such as allowing us to explain more nuanced relationships and to explore alternative theories and explanations more fully. Hence, the main advantage of the qualitative analyses is the fact that they allow this fuller exploration of alternative explanations. It allows to explain important issues, such as the reasons why lack of rationality of all actors is not the best way to understand developments in HE. It also provides more nuanced interpretations of the reasons why political parties cater to the need of MNCs. The aim has been to triangulate information to the extent to which this was possible - especially the information gathered from interviews. It would be ideal to be able to cross-validate each of the findings using one method with other findings relying on other methods. The chapters are trying to accomplish this. To sum up, the case study allows for a good understanding of the coordination mechanisms at play in a DME: process tracing, qualitative assessments of macro-level processes and indicators, analysis of a firms behaviour. This is accomplished relying on diverse analytical, methodological and theoretical traditions.

6 Argument in Brief

The DME model is used in this thesis as a tool for explaining HE developments. This is a loose tool, as it is a way to simplify an over-complex set of interdependencies. As such, the model is always wrong, but it is useful (Clarke and Primo 2012) for explaining the puzzling developments in these economies. Nevertheless, a few steps are necessary in order to ensure the usefulness of this tool. The validity of the models assumptions needs to be tested empirically (i) as does whether the

relationships flow logically (ii). One way to test the validity of the model is by presenting it in a stylized, formalized way. Once a set of assumptions is empirically tested, all the interdependencies described are easier to follow and the model follows logically. This is all achieved in the second chapter of the thesis.

6.1 Low-skills Equilibrium and Upgrading

The entire first chapter enquires as to what explains the inability of the Romanian market economy to develop high value-added activities despite having registered such high enrolment rates. The second chapter asks this same question in relation to the 10 CEE countries. In the following I present a condensed form of my line of reasoning, structured around two main questions. Firstly, I am enquiring what were the main factors driving the liberalization of the Romanian economy. Secondly, I turn to explaining the factors that reinforce the existing model of the economy and present some hypothetical mechanisms through which change could be brought about.

In the immediate aftermath of the fall of communism in 1989, it was not unquestionable that Romania would immediately embrace the norms of democracy and the market economy. The orientation of political elites towards the West should be understood in the context of a general delegitimation of the Left, but, most importantly, as an estimation of the immediate material benefits that the governments in power would profit from. The way in which I conceptualize these estimated benefits is through an approximation of the summed gains from direct sources of revenues stemming from the EU, the World Bank (WB), or other Western democracies in the form of aid or loans, from better private management of companies, and from remittances, i.e. sources of revenue as a result of migration. These material gains, rather than endogenous growth, have allowed the country to sustain itself economically since 1990.

Having explained the initial economic conditions and contextualized the opening up of the economy, I turn to explaining the mechanisms in a DME. The desire of subsequent governments to attract FDI came on the back of the lack of capital and the struggle of governments to generate growth internally. This initial step (i.e. becoming heavily reliant on FDI as the main source of finance) led to a set of consequences, the most prominent of which is persistent reliance on FDI as the primary means of raising investment. Moreover, this translates into increasing competition for FDI, especially among developing economies, given their lack of alternative sources of capital.

This then leads to a lack of power at the negotiating table for Romanian governments.

MNCs are deemed to have a strong position in the domestic economy and can therefore expect a preferential taxation regime and other benefits, e.g. discretional exit and movement of capital. FDI is the main source of capital for new businesses and for refinancing existing businesses, such as most of the privatized state-owned companies. Given the central position of MNCs in the economy (which has generated oligopolies in most industries), innovative business is rather scarce (as the World Economic Forum repeatedly pointed out in its Global Competitiveness Report 2010 - 2013). Furthermore, even within MNCs, innovation is transmitted top-down within the hierarchies of the company, and is not achieved in the subsidiary in the DME. These subsidiaries are mostly used as assembly platforms. Moreover, the goals of these subsidiaries in CEE in general and in Romania in particular are short-term and they expect a fairly skilled workforce in which they are rather unwilling to invest directly or indirectly through taxation.

Therefore, the higher education system is geared towards delivering medium- to low-quality education also because of low levels of spending on this. Thus the economy is geared towards becoming a producer of low- to medium-skilled manufactured goods, entrenched in a low-skills equilibrium (in terms of innovation and sophistication factors, Romania ranks 99th in the Global Competitiveness Report). This low-skills equilibrium also reflects the scarcity of high-skilled jobs in the domestic market and adapts to its downward pressure on the level of skills. In turn this determines highly skilled individuals to seek alternative jobs in the European common market (to which they have quasi-free access). Thus the European Union creates the opportunity for those few highly skilled individuals to develop further (through education and/or work), thus further contributing to the weakening of the highly skilled labour supply. Thus EU membership, through the principle of free movement of people, works as a perverse mechanism in this context.

At the same time, this reduces the risk of social unrest (through the fact that people who wish to have the opportunity to migrate, i.e. to leave) and this therefore reduces the pressure for change coming from voters. Governments keep the system going through various mechanisms. On the one hand, they give students and highly skilled individuals the opportunity to leave and allow the formation of fairly skilled individuals through a relatively egalitarian university system. On the other hand, governments continue seeking FDI by offering preferential regimes and thus in turn further reinforcing the dependency of the economy. On top of this, in the absence of unrest and

with a picture of policy continuation, political stability underpins a strong business environment, in turn attracting further foreign investment, yet without treating the underlying problem of the low-skills equilibrum and the little to non-existent domestic investment and development.

In the DME characterized by a low-skills equilibrium the demand for high skills stemming from companies active domestically is rather low. Moreover, the employers most likely to offer jobs for highly skilled individuals are MNCs (this is explained in more detail in the second chapter, focusing on employment destinations). Therefore, the DME model explains why the sophistication level of companies active in the domestic market is rather low.

Nevertheless, this research also seeks to understand under what conditions some countries in the region have managed to upgrade economically while others have not, as is pictured in Table 1. Within DMEs, some countries have done better than others and MNCs choose the destination economy for their new branches on the basis of the skills they find in the destination economy once controlling for other sources of variation. This implies that several other equilibria can be achieved, ranging from low-skilled to medium- and high-skilled. Table 1 depicts the different equilibria that have emerged in the region and which can be visible in four main areas included in the table: the role of government, that of migration of highly skilled individuals, of the sophistication of activities of companies active domestically. These institutions adapt to each other in the long run, which then results in an equilibrium. While these equilbria are generally stable, governments can have a determining effect on elevating them. Governments can coordinate efforts, improve education, and attract companies conducting more sophisticated activities. Different governments across the region and within countries have been unequally successful in this attempt. Table 1 reflects the approximate outcomes as of 2014.

6.2 An Alternative World

This thesis argues that the link between MNCs and HE institutions has been mediated decissively by political parties in each of the countries. This is a general trend that is observed in the region and can explain complex political economic developments, as fully argued in the thesis. However, the theoretical proposition advanced here is, at times, in stark contrast to some existing explanations in the literature. Probably the most prominent of these views is the one arguing that there is no direct or indirect connection between MNCs, HE and political parties. According to this perspective

Table 1: Different Existing Equilibria

Equil.	*Higher Education*	*Migration*	*Employment destinations*	*Governments*	*Country*
1	Low quality, high quant.	Emigr. of high skilled	Little sophistication	not active	Romania
1	Low quality, high quant.	High migration	Little sophistication	Low not active	Bulgaria
1	Low qual., high quant.	Some migration	Little sophistication	not active	Lithuania
1	Low qual., high quant.	Some migration	Little sophistication	not active	Latvia
2	Medium quality	Some migration	Some sophistication	extremely active	Estonia
2	Medium quality	Some migration	Some sophistication	active	Slovakia
3	Medium quality	Little migration	Some sophistication	active	Hungary
3	Medium quality	Little migration	some sophistication	active	Czech Republic
3	Medium quality	some return migration	Some sophistication	Some active	Poland
3	Medium quality	Little migration	outward MNCs	somewhat active	Slovenia

Source: author

each of these actors is making independent decisions and their incentives are not influenced by the actions of the other actors. In other words, MNCs will enter a country independent of the level of education in that country and political parties will not have an influence on either HE governance, nor on the decisions of MNCs. In some more extreme views, parties and MNCs will not have their incentives influenced by the presence of any of these other institutions. Moreover, individual voters, be they students or employees, will not adapt their strategies according to the world they are experiencing. I argue this is a rather implausible theoretical proposition and the empirical data supports my argument as well. The differences across countries seem to suggest that MNCs are able and willing to move to neighbouring countries to exploit the human and physical infrastructure, while marketing their products in the countries nearby. Therefore, the story according to which MNCs will move to a country independent of the human capital existing there in order to 'exploit' the local market, i.e. to market their goods there, does not hold. There is always the possibility to be producing goods close to the borders of another country, as numerous examples show. Hence, this remains a valid possibility but not neccessarily one invalidating the arguments linking MNCs to HE developments.

This thesis tries to convey a persuasive and neccessarily brief description of a mechanism able to explain some puzzling outcomes. It identifies the conditions under which MNCs will have a perverse effect on the education sector and how political parties in government can mediate this relationship. It assumes a certain degree of rationality of the actors implied. However, it is most likely that the actors hypothesized to be relevant for the outcomes will not always act rationally. Nevertheless, given some initial conditions and given a mechanism that is portrayed following the case studies, the results seem to confirm the rational mechanism proposed. This suggests that, in the long run, rationality can be assumed to be dominant. Another important view, closely linked to the discussions on a lack of connection between institutions, is that coordination and complementarty between institutions is not perfect. We cannot expect actors to be adapting their strategies instantly and to always understand what their best strategies are. Nevertheless, on the long-run and due to repeated interactions, this can happen.

A third approach that is distinct is one where historical legacies figure prominently and where they determine outcomes. According to this view, the differences between the levels of sophistication in the countries of CEE can be explained to be largely due to the different starting points in the

democratization and marketization era in 1989. This starting point includes their HE systems and the industrial infrastructure that has been inherited. This is unquestionably relevant but cannot fully explain variation *within* countries at different points in time. Historical legacies understood as repeated interactions will influence outcomes and this is discussed in detail with reference to Pierson's (2004) work.

Lastly, the role of the Europeanization process in explaining these developments cannot be discounted. The Bologna reforms have had a major impact on higher education developments across Europe and it has influenced the countries of CEE as well. However, at least two caveats are in place. First, the Bologna process should have influenced the countries equally - but we still notice differences between them, both within the 10 country-sample and beyond it. Second, the major dynamics have taken place before the Bologna process started in 2002, so the increase in enrolment is not only due to the Europeanization process. Nevertheless, the influence of transnational organizations, defined largely or narrowly, remains relevant. Bruszt and McDermott (2012) convincingly argue that the role of the European Union has been crucial in certain sectors and industries, particularly in the diary industry in Romania or Poland. This normative power of Europe, substantially supported by structural funds, has certainly influenced the development of HE as well.

This section has tried to argue that there are many ways in which the theory put forward in this thesis is falsifiable.[7] Many of the propositions put forward in this piece of work can be proven wrong and this section has briefly mentioned some of the plausible alternative explanations for the processes of interest. While doing so, this research contributes to central debates in the discipline and it puts emphasis on certain institutions while leaving others aside. This does not mean that it considers everything else to be irrelevant, but rather, that if controlling for all other sources of variation, these three institutions become central. And last but not least, presenting the theoretical propositions while putting them into perspective by relying on alternative scenarios is an effective way to better shape the causal mechanisms proposed in this thesis.

6.3 Roadmap of the Thesis

This section provides a synopsis of the chapters of the thesis. The four empirical chapters build on one another, the first two chapters are closely connected, as are the last two chapters. The first

[7] I am thankful for this suggestion to Bob Hancke. The rationale for these falsifiable theories is also more fully developed in Hancke (2009).

two chapters seek to understand the links between MNCs, HE institutions and the government by means of a case study and a cross-national large-n analysis respectively. They both define and measure the relationships between the institutions determining the DME model. The last two chapters move on to exploring differences within the sample and explaining what has determined some countries to move up the ladder of economic sophistication while others have not done so. The conclusion of the thesis addresses the broader implications of this contribution. Each chapter is described briefly below.

The next chapter explains the deterioration of higher education in Romania in the context of its post-1989 political economic development. First, I describe the evolution of enrolment, quality, and funding as key macro-level indicators of the higher education system. Second, I explain these developments with reference to the incentives, at the micro level, for (prospective) students to invest in education. Understanding the incentive structure at the micro level is vital for comprehending the evolution of higher education in the country, but also, more generally, for grasping the nature of the Romanian economy as a dependent market economy entrenched in a low-skills equilibrium.

The second chapter extends the analysis to 10 countries in an attempt to explain the rather low economic growth in CEE. It argues that the supply of skills, i.e. increasing enrolments, can be explained by the structure of demand for high skills in these CEE markets. Indeed, the most relevant private employers in the market, multinational companies (MNCs), play the crucial role on the side of demand for high skills, while the governments play the decision-making role on the supply side, by liberalizing HE. The preferences of different institutional actors and their links to one another are analysed by using survey data on firms and households collected by the European Bank for Reconstruction and Development (EBRD). The paper estimates the demand for HE stemming from private employers and shows that MNCs are more likely than domestic companies to employ HE graduates.

The third and fourth chapters focus on four countries: Romania, Estonia, Hungary and Poland. These chapters explain under what conditions some countries have managed to upgrade economically while others have not. They show how some countries that have inherited a relatively similar political-economic system have managed to escape a low-skills equilibrium and have taken a different role in the global production chain. The third chapter first describes the differences between R&D intensity and aggregate value added by sector of national GDP in CEE countries. Second,

it argues that countries that have managed to upgrade have had powerful governments simultaneously attracting MNCs and steering the development of HE institutions towards developing more sophisticated activities.

The fourth chapter continues to explain the relevance of the political orientation of parties in government for the upgrading capacity of these countries. While the third chapter shows that governments matter, the fourth seeks to explain which governments are involved in upgrading and which are not. It tests whether commonly used classifications of parties – the Left-R ight dimension – can explain decisions concerning HE and hence the active role of parties in government in improving the economy. This chapter argues that the share of middle-class voters represented in government determines the proactivity of governments in upgrading.

7 Conclusions

This research explains some puzzling developments in the countries of CEE: an impressive evolution of enrolment in HE, but less impressive economic growth. It identifies differences between countries and it links these differences to the role played by political parties in conjunction with MNCs in the region. It does so by using a mixed-methods framework, providing analytical narratives and cross-country analyses of individual-level data. It combines explanations with descriptions, while being deeply embedded in well-established research traditions and at the same time contributing to their development. It redefines the political economic model of the Dependent Market Economy (Noelke and Vliegenthart 2009) and it provides avenues for testing some of its implications empirically. The case study of Romania allows for a good understanding of the important institutions in this political economy by using process tracing, qualitative assessments of macro-level processes and indicators, and analyses of firms behaviour. These relationships are then formalized and some of the assumptions and predictions of the model are tested in a cross-national context.

This thesis makes a substantial contribution to the political economy of skill formation literature and to literature on Central and Eastern European political economy. By analysing the links between factors that are not usually studied together, it contributes to the body of knowledge on a relatively under-studied region. Little has been known before in political science about these developments in HE and their links to the labour market and political parties in government in CEE. At the same time, thinking about it more broadly, in new democracies, skill formation is an

important topic that had received puzzingly little attention.

Most ambitiously, the aim of this thesis is to push the debate on skill formation towards new territories. It engages, sometimes critically, with literature on Eastern European political economy. It shows why it is important to think about actors and mechanisms as the driving forces of the difficult-to-understand political-economic developments in the region. Moreover, the thesis engages critically with political economic developments in new democracies and new institutions emerging in these new environments. It sheds new light on higher education debates. At the same time, the thesis aims to develop theories about the world that can reach across time and space. This research should inform work on democratic institutions and open economies in general. It shows how, even in the less fertile environments, political parties can play a crucial role in economic governance and in providing the adequate environment for firms to upgrade. This is a contribution to scholarship on comparative politics more broadly because it shows how partisan politics has a determining influence on public policy. It can, in many ways, be considered an optimistic portrayal of partisanship.

Nevertheless, this thesis cannot and does not aim to be exhaustive in explaining developments in these political economies. One important omission has been the empirical analysis of migration. The model does not fully explore the influences of migration by the highly skilled on the domestic skill pool. The debate on "brain drain" and "brain gain" will be explored in future work, analysing the influence of migration in CEE and in the DME context. Data paucity has been an important challenge for this research, and also for the analysis of high-skilled migration in particular. Data triangulation has been helpful in partially overcoming this difficulty by relying on interviews, surveys, as well as macro-economic indicators. At the same time, future research will be able to use the data that has started to be collected, such as the BEEPS surveys, disaggregated data on higher education indicators, as well as data on foreign companies (FATS). Future work should complement these findings by also analysing trends in advanced capitalist countries. While the answers provided in this thesis are not perfect, nor complete, they can improve our understanding of the political economic determinants of HE refom and the consequences of these reforms for the sophistication level of these economies.

Chapter I

Higher Education in Romania's Dependent Market Economy: A Low-Skills Equilibrium Trap*

Contents

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*This chapter was partly co-authored with Annette Freyberg-Inan. The original data collection was conducted by me. I also revised the current version of this chapter.

1 Introduction

This chapter discusses the deterioration of higher education (HE) in Romania in the context of its post-1989 political economic development. First, we place this evolution in the context of demand for higher education by prospective students and employers, focusing on the factor of low demand for skills in the multinational companies (MNC) dominated Romanian economy. Second, we provide previously lacking empirical insight on the evolution of enrolment levels, quality, and funding as key macro-level features of the higher education system, showing the difficulty of an economy trapped in a low-skills equilibrium to move up the ladder of economic sophistication. We argue that Romania has evolved into a dependent market economy entrenched in a low-skills equilibrium, and that the decline of higher education is a key element in this process. This chapter provides a new understanding of HE in Romania and, most importantly, of the model of capitalism that has emerged in the country. It focuses on the relationships between MNCs, HE institutions, and governments in a dependent market economy.

Even if skills acquired in communist higher education were overly specialized and not easily transferable (Boeri 2000), the system was creating "too many rocket scientists, too few marketing experts" (Campos & Dabusinskas 2002), and the social sciences, broadly defined, were altogether stymied, one of the advantages Romania, like other post-communist countries, inherited from the communist era was a relatively well-performing higher education sector. The level of instruction in East and Central European universities was considered comparable to that in Western Europe (Graham 1987), at least in the hard sciences and mathematics (Tomusk 2000, 2004). Moreover, on human capital indicators such as enrolment or average years of schooling the former communist countries ranked close to the OECD (Barro & Lee 2001). This arguably meant that Romania, alongside other post-communist countries in Europe, commenced its transition to market economy with a relatively solid skills pool.

Higher education (HE), through the complex skills it provides, is unquestionably vital for economic success in a knowledge-based society, on both individual and aggregate level (Goldin & Katz 2008, Krueger & Lindahl 2001, Hanushek & Wossmann 2010). The level of skills in an economy is inter alia positively correlated with the level of high value-added activities and innovation (McMullen et.al 2000). While the aggregate level of skills depends on more than higher education - it is, for example, also affected by vocational and on-the-job training - formal education remains a

cornerstone.

In the context of transition it was widely expected that the European post-communist economies would develop towards higher value-added activities. And indeed, a superficial glance at Romania might support such an impression. Economic indicators have continued improve since 1990, as marked by a considerable increase in the GDP and living standards for a majority of the population: E.g. GDP/capita increased from 1,625 USD in 1990 to 7,940 USD in 2012 (IMF World Economic Outlook 2013). Successive post-communist governments have aimed to enhance competition on the education market, alongside other sectors (Dobbins 2009). And enrolment rates in Romanian HE institutions increased from 10 percent in 1989 to 63 percent in 2009 of the population in the relevant age category (NSI 2011). This seems broadly in line with Ansells (2010) expectation that democratization and economic openness should lead to increased enrolment and funding for education.

Three sets of factors combined during transition do indeed lead us to expect a strong performance of the higher education sector in Romania since 1989: (i) The country started marketization with a solid skills pool comparable to many advanced economies, and the number of competing institutions and enrolment only continued to increase thereafter; (ii) the period witnessed substantial and continued economic growth; (iii) the country started a democratization process, which implied increased responsiveness of governments to voters, who can demand education. However, the expectation of a higher education boom has been met only partially. Instead, as we will show below, HE quality has at best stagnated, especially in technical subjects and in the hard sciences.

In this paper we analyze the role and evolution of higher education in Romania post-89 in the context of the countrys broader political-economic development. We argue that Romania has evolved into a dependent market economy (DME) trapped in a low-skills equilibrium, and that the lack of quality in HE is an element in this process.[1] Operationalizing and measuring the quality of HE is a most sensitive task. Evaluation procedures have not yet been developed at the European or a broader international level to assess the quality of higher education, as opposed to the well-known OECD PISA test for assessment of education up to secondary level.[2] Drawing on the vast literature in education science (e.g. Harvey and Williams 2010), we recognize that assessments of HE quality

[1] We eschew the focus on vocational training which is appropriate for other contexts (e.g. Martin & Thelen 2007), as in Romania vocational training has all but disappeared since 1989.

[2] The AHELO assessment is a feasibility study developed by the OECD meant to produce an equivalent to PISA for HE. However, this exercise is at an emergent stage and Romania has not taken part in the feasibility study.

ideally should be made in a differentiated manner accounting for different stakeholders: students, employers, teaching staff, government, and different funding agencies (Harvey and Green 1993: 10). It has been conceptualized variously as fitness for purpose, as value for money, or as transformative for the student (Harvey and Green 1993). However, given the scarcity of reliable and comparable data which could measure different and stakeholder-sensitive conceptualizations of HE quality in Romania, we must here proceed pragmatically: As will be further explained in section 3, we provide information on all possible quality indicators on which systematic data exist, while focusing most strongly on the relatively uncontroversial indicator of the ratio between absolute levels of funding and absolute levels of enrolment.

The lack of the expected clear improvement of higher education in post-communist transition is puzzling, but this puzzle has been largely overlooked in the literature, for at least three reasons. First, the legacy of a relatively high level of instruction took some time to wear off. It was not until the 2000s that stagnation or even decline became obvious to even domestic observers (The Economist, August 7th 2012). Second, government and education officials worked hard to project an image of success in westernizing education, both at home and abroad (Tomusk 2000). Third, observers abroad have often analyzed the capacity of the university system to Europeanize rather than on its performance per se (a recent example is Dobbins 2011). While it cannot be fully explained here,[3] our analysis does shed some light on why democratization and marketization have - contrary to Ansells (2010) expectation - not had the expected effect of strengthening higher education in this case, and might as well not have this effect elsewhere and at other times. The reason is, in short, that the development of dependent market economy status in Romania has created an incentive structure in which those who might demand quality higher education students, their parents, and employers in the aggregate do not have sufficient incentives to do so. As a consequence, governments have little incentive to invest in this sector.

Our analysis draws on a variety of sources, including access to Romanian-language policy documents, analyses, and polls as well as a series of interviews with higher education officials, politicians, academics, and private sector employees in human resources departments as well as focus groups with students and recent graduates (see appendix for list of interviews). Respondents were selected

[3]We recognize that other factors play a role as well for explaining the development of the countrys higher education system. However, the purpose of this paper is not to fully explain this development, but rather to show that it is explicable within the context of the countrys evolution towards dependent market economy status.

from the range of stakeholders relevant for HE quality: academics in public and in private universities, students and young employees as well as employees in human resources (HR) departments or working in HR companies, domestic and multinational employers, as well as representatives of think tanks and employers associations. Information provided in interviews was crosschecked with publicly available micro- and macro-level data as well as with secondary literature as part of the data analysis process. More details regarding the analysis of interview data are included in the appendix, while further methodological matters are clarified in each relevant section. Yet first an introduction to the DME concept is in order.

Noelke and Vliegenthart (2009), drawing attention to the impact of multinational corporations (MNCs) and international financial institutions on the institutional set-up of transition countries (see also Bandelj 2008; Drahokoupil 2009; Pop-Eleches 2009), have proposed a third political economy model next to the classic categories of coordinated vs. liberal market economy (Hall & Soskice 2001). This model, the dependent market economy (DME), captures vital characteristics of much of post-communist Europe, and particularly of Romania. DMEs develop based on three linked factors: the presence of at least moderately skilled but cheap labor, the transfer of technological innovation within transnational enterprises, and the provision of capital via foreign direct investment (FDI). We contribute to the development of this model by focusing on the crucial role of skill formation in a DME. Given the central role of FDI, in DMEs investment conditions and corporate governance are largely controlled by foreign, often multinational corporations. The local subsidiaries of MNCs in Eastern Europe are financed internally from within the company, and innovation within these MNCs tends to be transmitted top-down within the hierarchy of the company. Multinationals do not invest much domestically in R&D; they use DMEs as assembly platforms for innovations made at global headquarters, and therefore rarely require highly skilled employees in the DME. At the same time, to attract MNCs DME governments will keep taxes low, which limits inter alia public spending on education. Ready to move on when profit margins fall, MNCs will not be in favour of a generous public education system funded by high taxes, nor will they themselves invest much in education or training.

We hold that Romania is a DME as typified by Noelke and Vliegenthart (2009), but we go further in characterizing Romanias variety of capitalism. While DMEs can also operate at a medium skills equilibrium with some competitive advantages (Noelke & Vliegenthart 2009), or evolve towards a

coordinated (CME) or liberal (LME) type of political economy, neither of these trends is observable in contemporary Romania. Instead, with the end of economic transition the country emerges in a low-skills and low-productivity equilibrium which is difficult to escape. The low-skills type of a DME is shaped by three prominent factors previously unlinked in the varieties of capitalism literature which affect collective skill formation: the emigration of highly skilled individuals, low demand for highly skilled individuals in the domestic market, and a higher education system whose features abet entrapment in DME status. In linking the evolution of HE to Romanias variety of capitalism, this chapter elaborates most fully on the last of these elements, while not leaving the others out of sight. We proceed by examining the incentive structure of (prospective) students and employers, focusing on employment and MNC business incentives, respectively. Our analysis reveals that growing enrolment in HE degree programs in Romania goes hand in hand with an increasing formalization of education, in which the actual skills transmitted do not count much for either employees or employers and incentives to invest in improvement of HE are low on both sides. As a result, transformative effect, as an essential feature of HE quality, is low (Harvey & Green 1993).

The chapter is structured as follows: The next section offers a picture of incentives to invest in higher education given the structure of demand for and supply of skills in the Romanian labor market. The argument is grounded in the broader analytical framework sketched above, which characterizes Romania as a dependent market economy entrenched in a low-skills equilibrium. The third section shows how the evolution of HE after 1989 is explicable within this context, before the conclusion clarifies the broader relevance of this analysis.

2 Demand and Supply of Skills

2.1 Student Demand

In this section we present a simplified model of the incentives of (prospective) students to invest in higher education, with the aim of explaining the observed high demand for higher education at low levels of investment in quality (see section 3 below). Understanding the motivations of students requires us to understand how they perceive their opportunities in the labor market. The decision tree (Figure 1) below shows the most important decisions to be made by baccalaureate graduates.

We have developed this decision tree based on focus groups and interviews, with the aim to capture students perceptions of the incentives that determine their willingness to invest in quality HE. We also present data on objective indicators likely to affect these perceptions. We here display decisions to be made by students regarding the first-degree program attended. The sequence is repeated when decisions need to be made about successive degree programs. This figure aims to bring order to complexity and represents a simplified version of the major options that students face. Hence, real-life decisions are not as straightforward as presented here.

Persons who have passed the baccalaureate exam are eligible to apply to universities. The first decision to be made is whether to go to university at all or to start working immediately. A large majority of 80% of Romanian students believe that receiving a HE degree will increase ones chances of earning good money, according to a study conducted by the Romanian Agency for Quality Assurance in Higher Education (ARACIS 2010, Quality Barometer). The agency polled a representative sample of the entire population of students; the surveys were conducted in May-June 2009 and 2010. The findings were corroborated by our interviews with current students. Moreover, the decision to pursue HE seems the more reasonable as the unemployment rate of the highly educated has been consistently lower than that of the overall population (see figure 2). This supports the demand for HE degrees, as do various other factors supporting enrollment. The second decision to take is whether to go to university abroad or domestically. While in western European contexts the domestic-international divide between study locations may not be the most relevant, it is highly salient in Romania, given the universal perception that studying abroad guarantees better quality at considerably higher cost (supported by our focus groups and interviews). The resulting higher education brain drain (which also affects academic staff) contributes to the further weakening of the Romanian higher education system. According to UNESCO data, the number of outbound mobile students (ISCED 5 and 6) has increased by 150% between 1998 and 2010, by which time 26,000 Romanian students were studying abroad. The highest numbers of Romanian students were studying in Italy, France, Germany, the UK, and the US. These figures are striking also in comparison across the region; only Poland and Slovakia contributed more students abroad in 2010, with approximately 30.000 students each (UNESCO Institute for Statistics - outbound mobile students (ISCED 5 and 6)).

The third decision is whether to work abroad or domestically after graduation, independent of

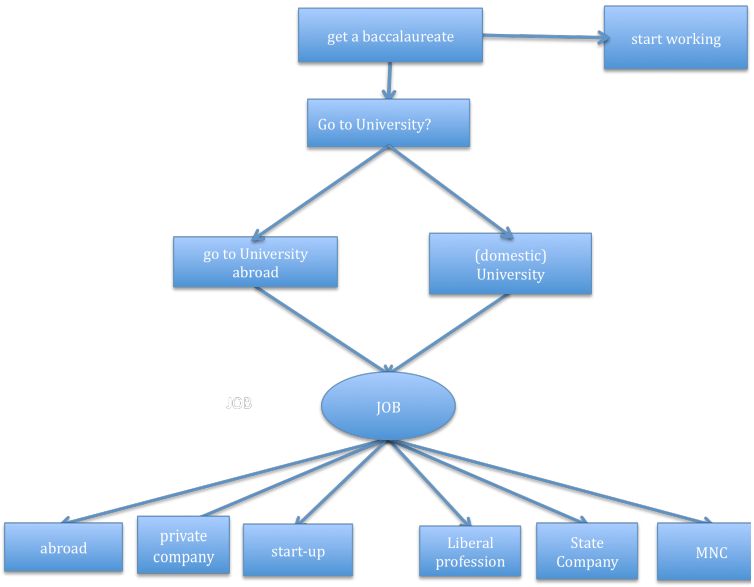

Figure 1: Education Decisions Tree (for baccalaureate graduates)
Source: author.

where the higher education degree has been obtained. A second wave of brain drain pulls highly skilled labour out of Romania. This is facilitated by improved access of highly qualified graduates to the European common market. Migration is attractive to very many Romanian undergraduate students. 50% of the interviewees in the Quality Barometer (ARACIS 2010) declared that they

intend to move to a different country, whereas 56% intend to study abroad. Of course students or graduates can always make a decision to return, which has the potential to improve the pool of available skills at home. However, as this paper argues, this is made less likely by the limited demand for high skills in the domestic market.

Hence, an interesting consequence of EU membership, which brings free access to the European higher education market, is that this can have the unintended negative effect of lowering incentives for demanding quality education at home and in this way represent a threat to the development of higher education in Romania. However, as our interviews revealed, this problem is generally not recognized by representatives of HE institutions in Romania, who instead perceive Romanias EU membership as having a positive influence on HE in the country. Competition on the European HE market takes place outside the field of vision of the representatives of Romanian HE institutions. They focus instead on attracting as many students as possible from the already truncated pool of domestic students (Interview U5).

If students decide not to leave the country, their willingness to invest resources, including effort, in quality education declines as the opportunities they see for applying high-level skills in the labor market decline. At the same time, the easier it is to attend university (e.g. the lower admissions criteria, the lower tuition, and the greater possibilities to work while studying) the more students will decide to go to university in order to obtain a formal degree. Essentially, they see that obtaining a degree is relatively easy, while not obtaining one is likely to diminish their chances, given the general run on HE degrees and the difficulty of obtaining well-paid work. The combination of easy access to universities and perceived lack of opportunities in the labor market increases the likelihood that young baccalaureate graduates will decide to attend a HE institution but will not be willing to invest significant resources either towards working for a quality education or towards creating effective political demand for quality HE. In short, baccalaureate graduates feel the need to obtain formal HE degrees to improve their employment opportunities, but do not expect that it will actually do so by improving their skills, so they do not expect that HE will deliver a transformative effect. This supports a low willingness to invest in HE and thereby a continuing low quality of output of higher education institutions.

2.2 Employer Demand

The motivations of students cannot be understood without taking into account the opportunities they perceive in the labor market. These, in turn, depend on Romanias more general political economic development and the demand for skills stemming from employers. At the same time, employers are important stakeholders in assessing the quality of HE. Their perceptions are considered in the following.

In the immediate aftermath of the fall of communism, Romanian governments and companies active domestically largely failed to realize domestic opportunities for growth. GDP declined dramatically while Romania had not yet opened up to foreign direct investment (FDI). Poor liquidity combined with the ideational dominance of the neoliberal model pushed subsequent governments to prioritize attracting foreign direct investment (Stark and Bruszt 1998). As Drahokoupil (2009) shows, by around the year 2000 state strategies in CEE generally converged towards competition for FDI. At the same time, foreign investors became more active in the region once countries had demonstrated consistent commitment to market economic and democratic transition over a decade. This led to foreign control of leading export industries and public utilities as well as to unprecedented levels of foreign dominance in the banking sector across the region after 2000 (e.g. Epstein, 2014).

The importance of foreign companies in Central and Eastern Europe and in Romania in particular stems from two sources: They have become a main source of capital, so their share in capital formation is high - as suggested by FDI data - but, even more importantly, they have become key employers in these economies. According to Eurostat data (Structural Business Statistics - Foreign Affiliated Statistics 2013), MNCs in Romania accounted for more than a quarter of business employment in 2010, the share of employment in foreign-owned companies (up from 22% in 2008 and 24.3% in 2009). These shares were comparable throughout the region - 25% of employees in the private sector in Hungary and 27% in the Czech Republic worked for foreign firms in 2010. These figures are higher than in any non-post-communist European country except Luxembourg (see also Marginson & Meardi 2009, who use data from the European Industrial Relations Observatory). Moreover, in Romania foreign-owned companies and in particular MNCs have become strong in terms of turnover and profit shares as well as employment in both goods and services, e.g. in public utilities, manufacturing (cement, metal, machine building, petroleum), as well as in financial bro-

kering and trade (Chivu 2009). They dominate especially in the category of large companies (over 1,000 employees) and in services. In 2007, employment in private MNCs with more than 1,000 employees amounted to 51.4% of total employment in private companies with more than 1,000 employees across the economy (41.3% in manufacturing, 64.2% in services) (Chivu 2009, based on NSI data). MNCs attract qualified labor by means of higher salaries and higher status than those offered by domestic companies. Also, the turnover per a person employed has been significantly higher in MNCs compared to total business employment: In MNCs it ranged between 112 and 104 thousand euro/year/employee between 2008 and 2010, whereas in total business employment the figures lay between 58 and 57 euro/year/employee. The revenue/ employee ratio has thus been twice as high in MNCs compared to total business employment (FATS statistics Eurostat). Therefore, one would expect that demand for the most sophisticated skills would stem from these MNCs. This also seems indicated in a survey conducted by the European Bank for Reconstruction and Development in all transition economies in the postcommunist space, which shows that the proportion of employees with higher education degrees is substantially higher in MNCs compared to domestic companies (EBRD BEEPS survey). Relevant scholarship focusing on the region has emphasized the dual role of MNCs for the development of its economies (e.g. Bohle & Greskovits 2012). Accordingly, foreign investors tend to be short-term profit oriented; they are unwilling to invest directly, or indirectly through higher taxation, into educating the labor force, while their strong position in the regional economies guarantees them preferential tax regimes and other benefits, such as discretionary exit of capital. Simultaneously, as we will see below, in Romania the public education system is underfinanced, and education outcomes are correspondingly weak on the whole. The aggregate skill level of graduates of tertiary education institutions certainly once we have subtracted those who are drawn abroad or into MNCs - is not high enough to enable significant domestic innovation. Over the past twenty-two years, the lack of highly skilled labor combined with the lack of domestic capital have contributed to preventing home-grown economic development through domestic investment and business, turning Romania into a DME.

MNCs in Romania expect a moderately skilled workforce and are able to draw the better qualified away from domestic companies. However, within MNCs innovation tends to be transmitted top-down within the company hierarchy, rather than being achieved in the domestic subsidiary. According to the Global Competitiveness Report (GCR) produced by the World Economic Forum

(2012), which rests on nationally representative samples of private companies that are comparable across countries, Romania ranks 106th among 144 economies on the combined factors innovation and sophistication last in the EU. Local suppliers in Romania rank low in both quantity and quality. Its competitive advantage (score of 3 out of 7; rank 104th out of 144) lies closer to low-cost products and natural resources (1) than unique products and processes (7). Moreover, the countrys exporting companies rank low on the value chain; on this criterion the Romanian economy ranks 110th (out of 136) in the GCR 2012 ranking. This further contributes to the deskilling of the labor force (Auer 2010).

According to data from the DG Research Annual Report of 2011, Romania ranks 26th in the EU-27 on share of Research and Development-related activities in GDP, 25th on the share of high-tech exports in total exports, and 27th on European patent applications. Scientists and engineers constitute a mere 4.3 percent of the labor force (18th place in the EU). Data on the percentage of GDP spent on R&D by private companies also supports the thesis of a low-skills equilibrium. Moreover, the sophistication level of economic activities is decreasing in Romania, unlike in the majority of the new EU member states (see figure 3). The low skill level in the Romanian economy is also reflected it its employment structure (see Figure 2). Next to its large agricultural sector (Romania has the highest agricultural production as part of GDP among the new EU members, see figure 5 below), most of which consists of small-scale agriculture, manufacture, construction, as well as wholesale and retail make up the bulk of employment. Only 1.6 percent of the labor force are categorized by the National Statistics Institute as being in professional, scientific, or technical employment. Other categories in which higher education graduates are routinely employed (public administration, health, education, IT, and finance) add up to an additional 16.4 percent.

But even if the actual demand for high-level skills in the labor market is relatively low, enrolment in HE remains high while formal degrees are still perceived as important by (prospective) employees and employers. In line with a Europe-wide trend, it is unlikely that enrolment rates will significantly drop, but we can propose at this point that the demand for HE in Romania seems to be focused more on its formal than its substantive value. Having sketched the peculiar demand structure for HE degrees, we now turn to considering the supply of HE in light of these parameters.

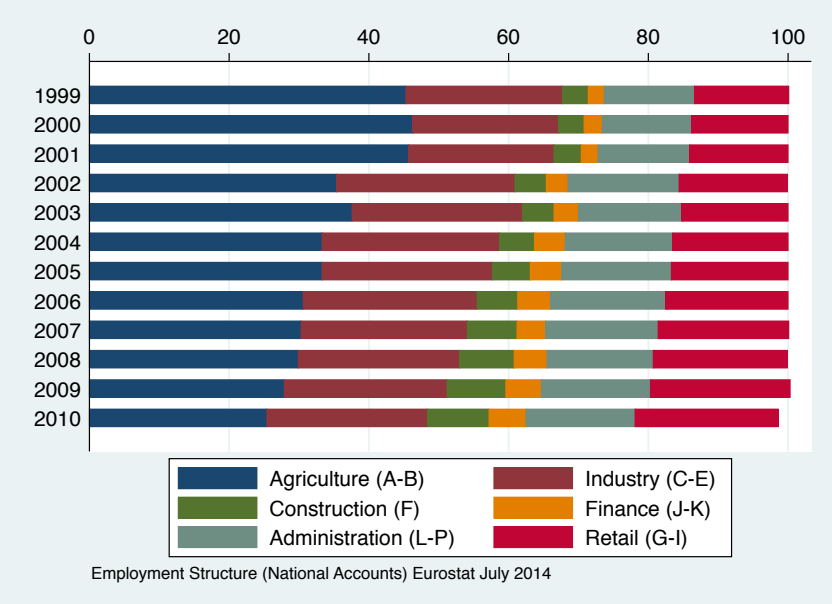

Figure 2: Employment Structure in Romania by Industry Level
Percentage of Total GDP. *Source:* Eurostat. Structural Business Statistics.

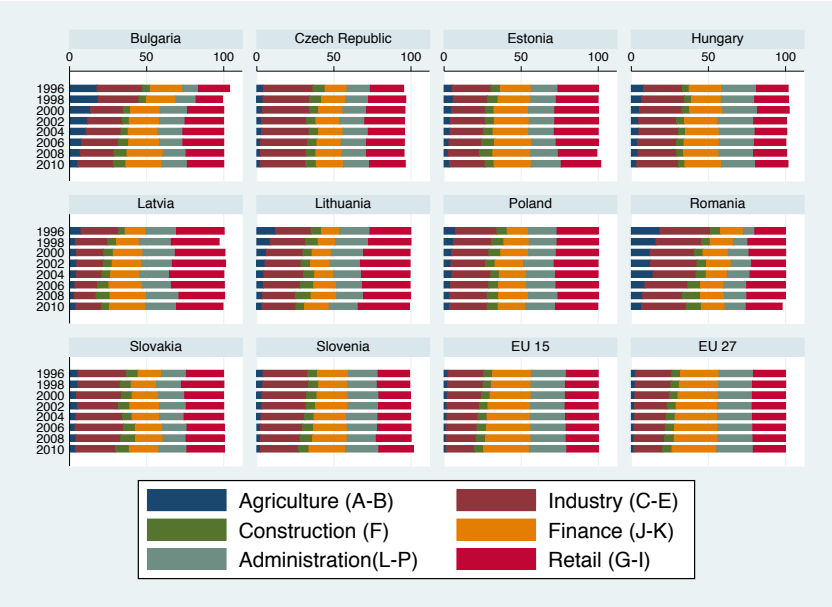

Figure 3: Production Structure in Europe: Gross Value Added at Sector-Level
Aggregated by Six Branches of Activity. Percentage of Total GDP at Basic Price Levels.
Source: Eurostat. Structural Business Statistics.

2.3 Is Supply Responsive to Demand?

After 1989 Romania witnessed an exceptional increase in HE enrolment (see figure 6). World Bank (2011) data show that between 2000 and 2010 HE enrolment in Romania increased more strongly than in any other country in the world, except Cuba and Venezuela.

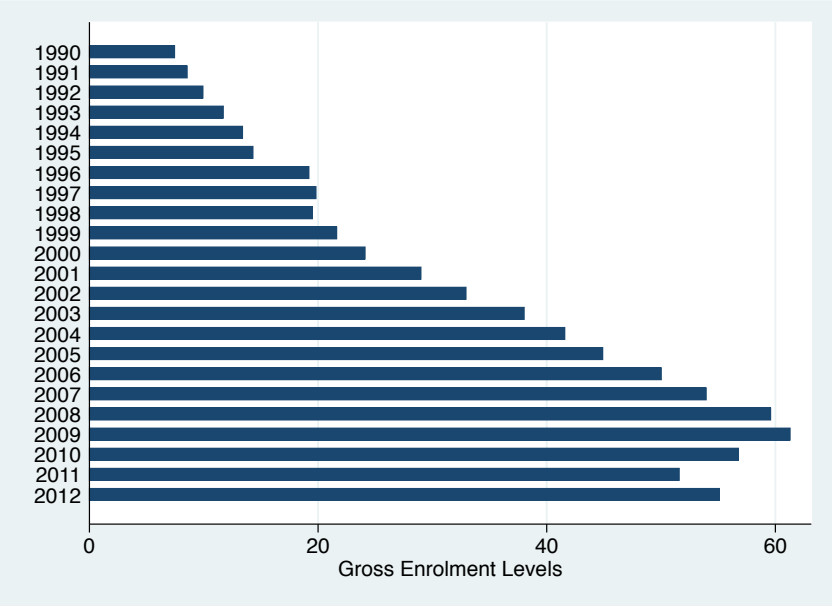

Figure 4: Gross Enrolment Rates in HE for Persons Aged 19 and Higher.
Source: UNESCO Institute for Statistics.

There are several reasons for the increasing enrolment in higher education during the period. One is the growth of the student-age cohort in the 2000s. The student age cohort continued to grow until 2009, when the first cohort born after the cancellation of Romanias anti-abortion legislation came of age. In absolute terms, in 1990 the number of persons enrolled in university lay at 200,000, this had reached 900,000 in 2008 and decreased to 800,000 in 2010.

A second reason for increasing demand, which was repeatedly mentioned in our interviews with Romanian academics, is that the public administration increasingly requires a tertiary education degree for positions for which only secondary education degrees would have sufficed in the past. This process has been driven by EU accession conditionality and the necessity to align the state bureaucracy with the acquis communautaire. It is now common practice for state employees to seek degrees, mostly in business and law, to be able to keep their positions. This type of demand

is however not created by an increasing need for skills (or a change in required skill structures), but rather by an increasing need for formal degrees. It therefore helps account for the continuing increase in demand for higher education degrees independent of the quality of the education provided.

Third, the expansion and diversification of employment opportunities on the private market also help explain the increasing demand for higher education, as many positions in international but also domestic private firms require, or are more easily accessed with, a HE degree. Fourth, and often in combination with the above reasons, the high unemployment rates that characterized much of the transition period motivated some individuals to remain in or go back to school rather than face the threat of unemployment. Fifth, the opportunity cost of attending universities has decreased during the period, as universities have spread to more locations, long-distance learning is often possible, and possibilities for combining work and studies have generally improved. Sixth, HE enrolment has profited from the significant drop in vocational training experienced in Romania during the same period. In comparison, a strong and attractive vocational sector in some countries, such as Austria and Germany, helps explaining why fewer students are drawn to the tertiary education system (Economic Policy Committee & Directorate-General for Economic and Financial Affairs 2010: 94). A seventh factor to explain the increasing demand for higher education might be lagged demand. Study places in higher education had been kept artificially scarce during communism and were therefore overvalued at the beginning of transition. According to one university dean and MEP (Interview U4), this has led many Romanians to overlook the fact that acquiring a HE degree today does not bear the same significance as it did back in the days of the planned economy. Last but not least, eighth, Romania finds itself in a broader context of worldwide massification of tertiary education during the last decades (Interview U6). There is no reason to suspect that any of these eight factors is irrelevant for keeping enrollment in HE high during the post-1990 period, in spite of the below-documented decline of its quality. The following figure (Figure 7) provides an overview of enrolment figures for different disciplines over time (Unesco Institute for Statistics).

Clearly, then, the demand for HE degrees by prospective graduates was high throughout transition. And governments responded, not to any real demand for high-level skills in the labor market, but to the demand for degrees by their prospective voters. At the end of 1989 HE was entirely public and centrally planned. Already in 1990 the first post-communist government provided the

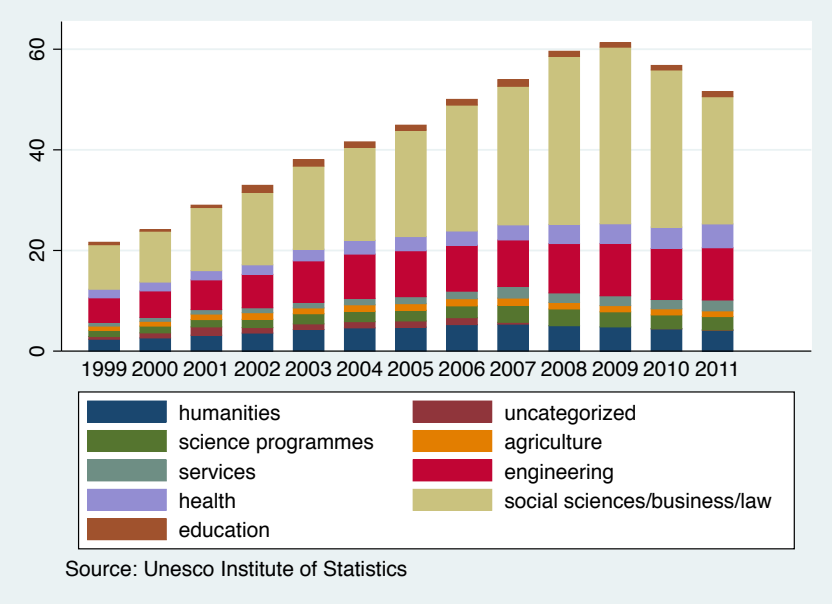

Figure 5: HE Enrolment by Field of Study.
Source: UNESCO Institute for Statistics.

legislative framework that allowed the supply of HE to increase, inter alia by the foundation of private institutions, which spread rapidly across CEE more generally (Galbraith 2003).[4] By 2009 Romania held 106 universities, 56 of them public, 50 private. In 2009, universities offered more student places than the total number of baccalaureate graduates in the country a clear case of oversupply even given the quite consistent growth in bottom-up demand for higher education.

The expansion of supply was driven by the recognition among politicians that legislative changes to facilitate the foundation of private universities would please both prospective students and their families and education entrepreneurs. According to an expert at the Bologna Secretariat in Bucharest, private universities have had a strong lobby in the Romanian legislature and government (Interview N5 April 2012). They have also contributed rather substantially to the state budget. According to data from the Romanian Ministry of Finance, e.g. University Spiru Haret made a

[4] In Romania new universities and faculties began to appear in the absence of full regulation, which progressed only slowly. It took until 1994 for regulations for accrediting these institutions to be passed, and some issues regarding accreditation still have not been resolved even under the new Education Law of 2010. Private universities were founded based on law 51/1990 regarding private initiative, and the entire education process was regulated by yearly government ordinances between 1990 and 1995. Regulations regarding private HE institutions started to be passed at the end of 1993 (law no. 88 of 1993 regarding the regulation of private HE institutions, but also education law nr. 84 of 1995).

profit of 42 million euro in 2008, 40 million euro in 2009, and 25 million euro in 2010 (Ziarul Financiar September 10th 2011). [5] The increasing supply of higher education thus opened up a new field of profit generation while responding to the demand sketched above.

Another profit-generating part of the expansion of HE supply was the creation of private study places at public universities. Since 1993 public universities collect tuition fees according to the numerus clausus principle. Students ranked lower on the list of admissions or those studying for a second degree pay fees. As a result, privatization of HE as a broader trend has also encompassed public universities. Private HE in Romania is provided by both private and public institutions, and public institutions typically contain both public (state-funded) and private (fees paying) students.

Private universities and private study places as public universities benefitted students who would otherwise not have been admitted to HE. Academics could supplement their earnings by taking an extra job, and education entrepreneurs founded universities to make a profit. Also important was that private HE institutions presented themselves as an alternative to public HE at a time when the privatization of state-owned companies in most sectors of the economy was publicly endorsed and officially pursued by the government. The broader context of privatization thus helps explain the uncontested emergence of private HE institutions and private study places at public institutions. Given the increasing demand, potential HE providers with entrepreneurial skills (and the required access to important networks) have seen opportunities in starting up private institutions as an alternative to state-financed universities. They soon outperformed public institutions in terms of enrolment levels. Their marketing strategy across the board was to compete with existing public HE institutions on lower prices (than fees-paying positions in public universities), laxer entrance criteria, and the promise of passing exams more easily, and not on exclusiveness and higher quality programs. While they increasingly represented competition for publicly funded universities, this competition failed to boost quality, as public universities by and large chose to compete with private institutions on their own terms: Public universities also moved in the direction of attracting more students and have thus become less exclusive and, increasingly, only formally quality-oriented. The alternative strategy available to public universities, one of stressing exclusivity and quality, was not taken, as will be further discussed in the next section.

[5] The private university Spiru Haret in Bucharest is the largest university in the country, with 275,000 students in 2009 and 165,000 in 2010. (The number of students decreased in 2010 because more than 50% of the cohort did not pass the baccalaureate exam.) The second largest university is the public university Babes Bolyai in Cluj Napoca with about 50,000 students.

3 The Political Economy of HE Quality

3.1 Evaluating Quality

So far we have emphasized the increasing proliferation of HE recipients in the Romanian market, which in our case should not be considered an unquestionably positive development. Counting the number of HE degrees is a poor assessment of the state of HE in a country. A reasonable assessment should take into account the quality of the HE process and the (domestic and international) credibility of the degrees obtained. Marketization, democratization, and an institutional preoccupation with HE quality could conceivably have led to an increase in HE quality. However, the Romanian case does not bear out the expectation of improving quality of HE through competition and employer demand. There has been little specialization, and the quality of higher education, especially but not only in private institutions, is poor.

As Jones and Ratcliff (1999) point out, there is no international consensus on what constitutes quality in HE, because the proper goals and means of such education are highly context- and stakeholder-dependent. As a result, in the Romanian case, comparing the quality of higher education during communism with the current era is a difficult endeavor. Also, any assessment of the quality provided by an education system must take into account the domestic as well as international institutional constraints, such as quality assurance mechanisms, faced by such a system, such as the Agency for Quality Assurance in Higher Education (ARACIS) in Romanias case. Our biggest difficulty for this particular paper, however, is the absence of systematic over-time data. These difficulties call for a flexible approach to capturing the quality of higher education which uses multiple indicators to triangulate individual measurements and to allow for multiple comparisons, relying on different (combinations of) indicators, with a variety of other places and times.

Hence, drawing on Tomusk (2000) and on Harvey and Green (1993), we here assess in brief four different factors to capture the quality of HE in Romania as it has evolved since 1989: (1) professor/student ratio, (2) academic scholarship output, (3) development of transferable skills, and (4) institutional efforts to improve HE quality. Factor (1) is an input factor for HE, whereas (2) and (3) are output factors (research and teaching). Factor (4) relates to both input and output quality. In a separate section below we take a closer look at the financing of HE, which is another, and possibly the most important, impact factor.

First, from the points of view of both students and teachers, within certain limits, a lower student-teacher ratio improves the educational experience that can be provided. The student-teacher ratio in Romanian HE has increased from 13.8 students/teacher in 1990 to 19 in 2001, 21.5 in 2005, a high of 28 in 2009 and 25 in 2010 (UNESCO Institute for Statistics).

The second factor we consider is output of academic scholarship in the form of publications or patents and citations by other scholars. Such measurements are questionable in many ways, as the statistics in use measure directly the quantity and publicity value of certain categories of publications, rather than their quality or a scholars more general contribution to his or her field (see van Vught & Ziegele 2012 for a critique). Yet in the absence of other systematic data we will here report the available data on research output as well.

To assess research output in Romania today it is important to recognize that universities in communist CEE were generally focused relatively more on teaching and relatively less on research. This has led some scholars to conclude that Romania still today employs a teaching model, similarly to Bulgaria, Lithuania, or Latvia (St. Aubyn, et al. 2009). But this is misleading, because after 1990 Romanian academia slowly started at least a formal reorientation towards an increasing status for research. The number of citable documents (articles, reviews and conference papers) produced by scholars affiliated with Romanian HE institutions has steadily increased, according to the SCImago database, from around 1,838 documents in 1996 to 10,897 documents in 2010.[6]

Romanias h index was 126 in 2011. This means that at least 126 articles published in Romania between 1996 and 2011 have received at least 126 citations.[7] On this measure, Romania, which has ca. 19 million inhabitants, now ranks 40th in the world out of 238 countries, lower than e.g. the more populous Poland (h index 281) but also the much smaller Czech Republic (223) or Hungary (239). We can derive from the data that Romanian visible research output has increased significantly, in line with a general trend observed for all 238 countries in the ranking, but it has increased less than in other countries in the region.

If Romania-based academics on the whole are not influential in global scholarship, this does

[6]SCImago Journal and Country Rank (SJCR) is a measure of scientific influence designed to work in extremely large and heterogeneous journal citation networks. It uses the Scopus database. This is the only available data going back to the 1990s. Current publications by Romanian academics concerned with the topic, which are mostly financed by the EU, only consider the last 3 - 4 years.

[7]Data available at: http://www.scimagojr.com/countryrank.php. The h-index measures the number of articles (h) published by academics affiliated with institutions in the country that have received at least (h) citations. When comparing the h index to the number of citable documents, Romania ranks 17th among the 24 countries included in the region Eastern Europe.

of course not preclude the possibility that they might be good teachers. Romanian universities traditional focus on teaching might in fact lead us to expect that they should be (Ciotlaus et al. 2011, Comsa et al. 2007). To judge the perceived contribution of HE to the development of transferable skills useful for labour market participation, there are two types of available data: survey-based evaluations by employers and by students.

Regarding the quality dimension of fitness for purpose, the GCR Executive Report of 2011 polled executives active in the domestic market. Answers to the question How well does the educational system in your country meet the needs of a competitive economy? averaged in Romania to a mean of slight dissatisfaction with a score of 3.4 (on a 1-7 scale from 1- not well at all to 7 very well); Romania ranked 84th. among 139 countries polled. On the quality of its management schools Romania ranked 98th in 2011 and 92nd in 2012; on the availability of specialized training services it ranked 95th in 2011 and 112th in 2012. A joint delegation of the International Monetary Fund, the European Commission, and the World Bank visiting Romania in November 2012 in the context of preparations for a new precautionary agreement with the IMF explicitly asked for improvements in the education sector: Romania needs productivity growth, capital investments in productivity, but also investments in human capital through better education and training. Recent survey data (ARACIS 2010) also reveals that employers consider work experience to be more relevant than students having performed well in university or having attended a specific university. This reflects both their distrust of the Romanian system of HE and the relatively low demand for high-level skills coming from employers in Romania.

As regards students views, in a survey conducted in 2004 by Gallup for the British Council a majority of young people (age 15-35) expressed dissatisfaction with textbooks and curricula (not modern nor adapted to market needs), assessment methods (do not accurately evaluate knowledge), and didactic methods (do not actively involve students). Current university students, as compared to high school pupils or those who had completed their formal education, were especially critical on all counts (British Council 2004). The Quality Barometer on HE in Romania shows for the years 2009, 2010, and 2011 that the average confidence of students in the quality of HE in Romania is very low (4 out of 10 on a scale from 0 no confidence to 10 high confidence), much lower still than that of employers (7), which in turn is lower than the confidence of professors (8). Students from 40 Romanian universities were polled in 2009, 2010, and 2011. The sample was representative for

students nation-wide (ARACIS 2010).

A last, fourth aspect affecting the quality of HE which is assessed here are institutional efforts to safeguard quality. These have mostly taken the form of regulations for the evaluation and accreditation of study programs and universities. Tomusk (2000) points out that Romania was active in initiating the quality assurance movement at the beginning of the 1990s by establishing the first HE quality agency in the region. The reason behind this drive at the time was the uncontrolled and unregulated growth in the number of higher education institutions (Interview N1).

Quality assurance and accreditation were at first largely considered synonymous in the sense that quality assurance was expected to be achieved through the process of non-voluntary accreditation (Tomusk 2000). However, quality assurance became more complex with the Education Law of 2010, which stimulates competition for research funding by allowing private universities to compete for such funding along with public universities and makes public funding more strongly dependent on the fulfillment of quality criteria, also for private universities (Abbot 2011). The same law introduced a four-fold categorization of Romanian universities: advanced research and teaching, teaching and research, teaching and arts, and solely teaching institutions. Lower ranked universities are now only allowed to provide undergraduate teaching. This is a major constraint, especially for private universities, all of which were included in the lower categories. The most traditional universities, such as the University of Bucharest, Babes Bolyai in Cluj, and Alexandru Ioan Cuza in Iasi, came out at the top. The new law also makes possible the emergence of private government-dependent (as opposed to independent) institutions.[8]

In spite of reform efforts, Romania continues to be plagued by scandals revealing unlawful practices in higher education, such as plagiarism, nepotism, other forms of corruption, and a related widespread neglect of quality criteria (Nicolescu & Pun 2007; Teodorescu et al. 2009; SAR 2007, 2013, Abbott 2011). For example, in 2006 the well-known professor and public intellectual Sorin Antohi was found to have based his career on a non-existent PhD and some other imaginary

[8]An EU-funded study on the effectiveness and efficiency of HE in Europe distinguishes between three types of HE institutions in terms of ownership: public institutions (directly or indirectly administered by a public education authority), private government-dependent institutions (administered by a non-governmental organization, receive over 50 percent of their core funding from public authorities), and private independent institutions (administered by a non-governmental organization, receive less than 50 percent of their core funding from public authorities). The private institutions that have emerged in Romania so far are private independent institutions (Economic Policy Committee 2010).

achievements, and in the year 2012 the successive ministers of education Ioan Mang and Ecaterina Andronescu as well as the prime-minister and leader of the Social-Democrat Party, Victor Ponta, were proven to have committed serious acts of plagiarism (Mungiu Pippidi 2012; Abbott 2012). The fact that Pontas coalition still won the general elections a few months later, in December 2012, with a comfortable margin shows how unremarkable such practices have become to the general public.

Irregularities, corruption, and neglect of quality criteria are the daily bread of students all over the country (Open Society Foundation 2004; Freyberg-Inan 2006). In turn, also many students show a relaxed attitude towards academic standards. Half of the respondents in the Quality Barometer (ARACIS 2010) declared that simply copying information from course material or from online encyclopedias in ones own papers is acceptable. Several of our interviewees remembered a well-known saying: Cri din cri se fac (Books are written from books). While we have here only been able to give a cursory overview, we can conclude based both on the data we compiled and on an overwhelming consensus in the relevant literature, that the quality of both research and teaching in Romanian HE appears questionable from the perspective of both (prospective) students and employers. While both enrolment and research output have increased, quality and compliance with many key standards have not. This is in part a function of the proliferation of qualitatively weaker, usually private institutions, which has led to a decrease of average academic quality in both teaching and research. But public institutions as well, besides increasingly providing private education themselves, are beset by shortcomings. Even though Romanian academia has reoriented from being entirely teaching oriented towards focusing more on research, and in spite of repeated institutional reform efforts, HE quality in both research and teaching has hardly improved and seems to even have declined in some fields, notably in the technical fields which had been especially strong during communism.

3.2 Financing vs Enrolment

The reasons for the poor quality of HE in Romania are numerous and complex, and cannot be treated fully here. The most frequently made argument is that the poor financing of higher education can explain its weak performance (Miroiu & Aligica 2008). The Romanian higher education sector has been chronically underfinanced, as spending on education overall and on higher education

in particular has remained low, even while enrolment continued to skyrocket. Between 2010 and 2012 about 4 percent of GDP were spent on education in general, compared to an OECD average of 6.1 percent and an EU average of 5.1 percent (in 2008, the last year for which consolidated information exists). While the Education Law (no. 1/2011, Article 8) stipulates that a minimum of 6 percent of GDP should be spent on the education system, this stipulation has so far not been implemented and there are no signs that it will be taken seriously in the near future. After winning general elections in 2012, Prime Minister Ponta immediately announced yet another postponement of raising expenditure on education to the legally prescribed level to the year 2014 (Nine OClock, December 12th 2012). As regards spending on HE more specifically, based on UNESCO data, the total expenditure on HE institutions in Romania both public and private - as percentage of GDP was 0.88% in 2002, 1.24% in 2005 (of which 0.42% from private sources), and 1.61% in 2007. In comparison, in 2005 Poland was spending 1.6% of GDP on HE, Estonia 1.2%, and Lithuania 1.4%. Expenditure per student (measured as % of GDP/capita) has decreased from 32.5% in 2001 to 26.2% in 2002, 22.1% in 2004, 26.1% in 2007 and 23.4% in 2009 according to World Development Indicators made available by the World Bank.

Besides being low, the way in which public funds for HE have been distributed after 1989 has not created incentives to invest in improving the quality of education or research. Aiming to address the problems stemming from insufficient funding, as mentioned above in 1993 the government allowed public universities to collect tuition fees according to the numerus clausus principle. At the same time, in line with a Europe-wide trend, public funds began being distributed mostly according to enrollment levels.[9] Most private funds are of course also directly enrolment-dependent, as they are collected through tuition fees from students willing to pay for their education. The main goal of HE institutions of all types has consequently become to increase enrolment.[10]

Since 2002 public funds have been distributed based on a formula with both quantitative and qualitative elements. Universities receive funding according to the number of students enrolled in each discipline according to a pre-established coefficient. For this reason, the government pays e.g. more for a student of medicine or drama than for a student studying economics or political science.

[9]This was a widespread development in CEE. However, arguably HE in Romania has evolved more strongly towards the liberal market model than in Bulgaria, Poland, or the Czech Republic (Dobbins 2011).

[10]This was confirmed in our interviews with professors at Romanian institutions of higher education (see list of interviews). Many of them said they were not worried about good students deciding to study abroad because their university or faculty was still able to attract a significant number of students.

A qualitative component, referring mostly to national and international research output as well as to the capacity to attract research funding, is also part of the formula. If a faculty scores well on the quality criteria, it receives part of the funding based on this score. However, the results in terms of quality improvements have been modest as only a very small part of the funding is being distributed this way.

Competition over students, driven by these financing mechanisms as well as oversupply of study places, instead of supporting a race to the top between institutions, has instead served to keep the price of education low. While prices in Romania have increased across the board, higher education remained relatively cheap (Miroiu & Aligica 2008). From 1990 to 2010 tuition fees ranged between the equivalent of 300 and 500 euro per year, in private universities and paid for study places in public universities.

Still, it is puzzling that fees are low for all universities, that there is no differentiation, and no entrepreneurs have tried to create elite institutions. Miroiu and Aligica (2008) suggest that this is due to the manner in which higher education is subsidized by the state, which does not allow it to become more expensive and therefore more valuable. But this neoliberal argument hardly explains the developments in the private components of the HE sector. We argue that the state of HE in the country overall can be better explained by the nature of the demand for higher education in a low-skills DME context.

4 The State of Higher Education as a Symptom: Romania as a DME at a Low-Skills Equilibrium

In Romania, higher education is geared towards delivering low to medium quality education, while the economy is geared towards producing manufactured goods and services requiring low to medium-skills in short, Romania is entrenched in a low-skills equilibrium. This is an equilibrium state because it both reflects the scarcity of high-skilled jobs in the domestic market (given the strong role of MNCs) and serves to keep the aggregate level of skills in the domestic economy low. Highly skilled individuals can compete with non-Romanians for high-level positions in international companies or organizations. They may also aim for domestic employment, such as in the medical profession or as university professors. However, salaries in the professions are very low, especially in the public

sector, which drives many top-qualified candidates away. Alternatively, they seek employment abroad, most often on the European common market, to which they now have open access (Alexe 2011). The fact that European Union membership creates opportunities for the few highly skilled to develop further abroad, through education and work, thus further lowers the supply of highly skilled labor at home. This definition of the low-skills equilibrium in Romania draws on the work of Finegold and Soskice (1988) who focus on the low-skills equilibrium in the UK. This version of the equilibrium is very much in line with their definition. There, they explain that the UK can move away from the low-skills equilibrium and that all actors would be better off if this happened. They explain why political parties were reluctant to intervene in training and education and they also show that the state apparatus was ill-equipped to start a centrally-led reform. They focus on the complex institutional constraints that kept Britain in a low-skills equilibrium. The definition of the low-skills equilibrium in Romania is very much in line with its initial conceptualisation (Finegold and Soskice 1988).

Improved exit options from the Romanian higher education and labor markets also reduce the pressure for change coming from voters. Successive governments have maintained the same set of parameters governing HE and its role in the political economy. They have worked to improve the opportunities for students and highly skilled individuals to leave the country, while maintaining the formation of moderately skilled individuals through a relatively egalitarian and accessible but chronically underfunded and badly regulated university system. They have simultaneously worked to attract FDI by offering a fairly stable business environment and preferential taxation and regulation, reinforcing Romanias economic dependency on capital and innovation from abroad. In the process, the twin problems of stunted domestic investment and development and low investment in higher education on both the supply and the demand side remain unaddressed. There is a real risk of recursiveness, as the nature of the HE system supports entrapment in DME status, and vice versa.

We began from the premise that the political-economic implications of the deterioration of higher education in Romania since 1989 can be better understood by exploring the dynamics of demand and supply of higher education and high-level skills in the Romanian economy. We have argued that a low-skills equilibrium has emerged in the country, in which a moderately educated population is producing low value-added goods and services. This is not only a symptom of Romanias status as

a dependent market economy but also helps explain the failure to overcome the quality deficiencies of the post-communist Romanian HE system.

Romania has not been able to capitalize on the advantage of beginning transition with a relatively well-educated population. Instead, higher education has stagnated or even declined, by some measures relative even to the communist period, by nearly all measures in international comparison except for enrolment levels. Given improved opportunities to study abroad, this leads to higher education brain drain. At the same time, Romania has evolved into a dependent market economy in which there are limited domestic employment opportunities for the highly educated, who therefore face incentives to exit also after graduation. In this context, we can begin to explain the moderate level of quality of education provided by domestic universities by two factors operating in tandem: first, the weak incentives of students (and their parents) to care about quality education, given the lack of opportunities befitting a high skill level; second, low public spending on education in the context of other spending priorities, fiscal discipline, and a privatization drive. To complete the picture, Romanias EU membership contributes to the reinforcement of dependency through improved access of students and highly skilled workers to the European common market. The most likely way out of the current equilibrium would be an evolution towards the liberal model (Hall & Soskice 2001, in which universities provide general skills and job training is achieved on the spot. But without a determined reprioritization of governmental regulatory effort and spending in favor of safeguarding higher education quality, we see little hope for improvement in the quality of HE in Romania, nor in the countrys ability to use improved qualification as a route to improved economic competitiveness.

All in all, this chapter provides a detailed description about HE governance in Romania. It offers extensive details regarding the internal mechanisms regulating HE funding and enrolment and it engages closely with literature in education sciences and education management. The mechanisms determining HE quality are analyzed more extensively than in any part of the next chapters. It shows that education quality is difficult to measure, but that some indicators can be used to support empirical research on HE quality.

The most important value-added of this chapter for the thesis is the fact that it considers the explanatory potential of the different mechanisms that could have led to an increase in HE enrolment in Romania. Being able to compare and weight the relative importance of all these

potential explanations is an important building block for the thesis. Thus, the chapter follows an inductive approach and the insights gained from these initial analyses will be further tested in the following chapters of the thesis. This chapter also sets the ground for the analyses to follow. It portrays HE development as a product of demand and supply and this conceptual approach is being further developed in the next chapter. The electoral determinants are considered only marginally, these will be further developed in the third and fourth chapters of the thesis.

5 Appendix

Interviews

Interviews were conducted between April 2011 and September 2012, predominantly in Bucharest and Sibiu. The selection of interviewees covers the most relevant actor categories: professors (engaged in academic activities in public and private universities), students and young employees as well as employees in human resources departments or working in human resources companies.

Universities

- Interviewee U1. Lecturer, Alexandru Ioan Cuza University, Iasi. Kusadasi, Turkey, April 2012
- Interviewee U2. Pro-rector, Faculty of Petroleum-Gas University Ploiesti. Bucharest April 2012
- Interviewee U3. PhD candidate, Oxford University. Graduate of Babes-Bolyai University Cluj Napoca, March 2011
- Interviewee U4. Professor, University of Bucharest and (former) dean of the Faculty of Political Science; member of the European Parliament. Bucharest, several interviews between April 2011 and September 2012
- Interviewee U5. Professor, Academy of Economic Studies, Faculty of Commerce, Chair of Tourism-Services. Academy of Economic Studies, Bucharest, September 7, 2011
- Interviewee U6. Researcher Institute for the Quality of Life and Lecturer Faculty of Political Science. University of Bucharest, September 5, 2012
- Interviewee U7. Associate Professor, Technical University of Cluj Napoca. Cambridge, UK, March 2012
- Interviewee U8. former head of the National Statistics Institute (1996-1998), Professor of Statistics, Academy of Economic Studies. Bucharest, April 2011

Governmental institutions and non-governmental organizations

- Interviewee N1. President Dinu Patriciu Foundation NGO focusing on education in Romania. Bucharest, April 2011
- Interviewee N2. Head of department Orizonturi Deschise, Dinu Patriciu Foundation. Bucharest, April 2011
- Interviewee N3. Head of the Bologna Secretariat in Bucharest 2010-2012. Several interviews and conversations in Bucharest between April 2011 and September 2012
- Interviewee N4. Programme director for educational initiatives, Romanian American Foundation. Bucharest, September 2012
- Interviewee N5. Expert, Bologna Secretariat Bucharest. Two interviews: April 2011 and March 2012
- Interviewee N6. EIU Services Manager; Senior Consultant & Researcher at Pythia International, Bucharest, April 2011
- Interviewee N7. Researcher, Institute for the Investigation of Communist Crimes and the Memory of the Romanian Exile. Bucharest, January 2012
- Interviewee N8. President, Group of Applied Economics (GEA), State Secretary Ministry of Finance 2012-2013. Bucharest, January 2012

Private Companies

- Interviewee P1. Human Resources Specialist, Banca Comerciala Romana. Bucharest, September 2011
- Interviewee P2. Junior Consult at Grayling. Bucharest, Several interviews between January 2012 and September 2012
- Interviewee P3. HR Manager Resources, Continental Automotive Systems SRL Corporation, Sibiu. September 9, 2011
- Interviewee P4. Catalyst Solutions, HR Manager. Bucharest, September 2011
- Interviewee P5. Account Executive Saatchi & Saatchi. Bucharest. Several interviews between September 2011 and September 2012

- Interviewee P6. Oracle Corporation, HR specialist. Bucharest, September 2011

In addition, focus groups with young employees and recent graduates were conducted in Bucharest and Sibiu in January 2012.

Analysis of Interviews

This section explains the data analysis and collection process. Most interviews were conducted at the beginning of the research period. They were preceded by two exploratory focus groups with students and recent graduates. Similar questions were addressed to all stakeholders. Access to respondents was facilitated through personal connections, as well as through interviewees further recommending other potential respondents using the snowball technique. Three interviews were recorded. This practice was given up once having realized that some of the information that was highly relevant for this research was considered confidential especially in private companies, but also by academics in universities. During the interview period a diary of the interviews was hold. This diary also included memos with some initial thoughts on the process as well as additional notes regarding the general frame of the interview. These were all considered in the writing-up process.

The transcripts of the interviews were analyzed thematically and coded for an initial version of the chapter. At a later stage, the coding and the themes were checked again in order to ensure that they were still consistent with the more advanced version of the thesis. Hence, the process was iterative. The data was coded manually as encouraged by Saldana (2009). The coding was conducted mainly deductively. The research began with some pre-determined ideas of the interest in the analysis that was clearly identified in the interviews. Semi-structured interviews were used, which made the coding fairly straightforward. I here list some examples of the codes: *hiring principles, general skills, specific skills, underfinanced/lack of funding for HE, over-qualification, study-abroad, secondary-school, bargaining, industry-specific contracts, HR-club.*

Further, some representative quotes are listed.

The interview (P1) with a HR employee in a formerly state-owned bank that was privatized and bought up by a foreign bank revealed some interesting dynamics surrounding a late privatization process. The respondent was managing HR before, during and after privatization. The interview took place after privatization. The interviewee provided details about how the company had become

more centralized once being privatized and how employees in managerial positions have migrated to the head-office and how the employees managing branches in the country have less prerogatives now that the privatization process has ended: It is being decided in Vienna which customers we target; The management team is entirely Austrian. The institution has transformed into a different one. When being asked how specific skills are being tested. Specific knowledge is being only tested in very seldom cases, when hyper-specialized employees are needed of which only 4-5 exist in the market at all. We do not test for specific skills other than this. What emerged was indeed that what they were looking for were general skills and then everything else would be learnt on the job. But even so,We prefer public university graduates. Over-qualification is a potential problem. We are always wary of students who have studied and travelled abroad and who are willing to take a junior position in a regional office. Most of the time this candidate will not be hired, or she will be hired if we see chances that she can be promoted very quickly. [If the company envisages such an opportunity.]

The interviewee (U5), an academic from a public university: Engineering is decaying in Romania, while the world is becoming more technologically advanced. All private universities are run as NGOs, so at the end of the fiscal year the question is how much money has been made (U5); Everything is numerical, this is all that matters (U5); The reason we do not have a unique registrar for students is that if I would like to receive a diploma from a university within a few months, this is possible. The minister (of education) does not know that the university X did not have a registered student four years ago. This is how it works. All private universities provide public services in a private entity. Please remember that financing is important. [This is why universities are so bad.][Pedantic tone] Cohort sizes: these have decreased - because less people were born but also because many people have migrated. The increased demand is not a serious demand: it is a demand stemming from people who are already in the system [in the market; already employed].

Chapter II

Multinational Corporations and Higher Education

Some Hidden Dynamics

A Perspective on Central and Eastern Europe

Contents

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1 Introduction

One of the most dramatic dynamics in the new European Union member countries of Central and Eastern Europe (CEE) since 1989 has been the revolution in higher education (HE). It is surprising that this evolution has remained completely unexplored in comparative politics, given the central role that governments play in regulating and financing HE. This chapter aims to fill this gap by presenting a straightforward argument formulated conceptually and tested empirically. It argues that three conditions needed to be satisfied in order for HE enrolment to increase: students needed to demand high skills; there needed to be a demand for these skills in the market, and governments needed to recognize the positive effects that the liberalization of the HE market would have on their chances of being re-elected. It is also possible for only two of these conditions to suffice in order for enrolment to increase. Enrolment could increase without a real demand for high skills in these markets as long as the governments and the voters have incentives to offer and to demand high skills respectively.

This chapter tries to explain the puzzling developments in higher education (HE) in 10 countries of Central and Eastern Europe (CEE) since 1989. Enrolments have increased up to six-fold in some of these countries, while public and private funding of HE have lagged behind in some countries but less in others. In turn, highly educated people have been absorbed into the economy, but economic growth has not been similarly spectacular. This chapter unveils some of the channels that have led to these outcomes. In particular, it argues that this supply of skills, i.e., the increasing enrolments, can be explained by the atypical demand structure for *high* skills in these CEE markets. This structure has been shaped by the most relevant private employers in the market, multinational companies (MNCs), playing the crucial role on the demand side for high skills and governments playing the decision-making role on the supply side by liberalizing HE. The chapter goes on to show, relying on data on firms collected by the European Bank for Reconstruction and Development (EBRD), that MNCs are more likely than domestic companies to employ HE graduates. These findings provide support for a model linking the development of HE to MNCs. Overall, the chapter adds to the growing political economy literature on skill formation and to the research analysing the effects of foreign capital on developing economies.

The interaction of three key players is analysed: governments, MNCs as the key employers in

these markets, and students interested in working in MNCs. Succinctly, the chapter argues that the way in which skills are used in the economy has influenced the spectacular enrolment levels and has in turn determined the differentbut limitedeconomic growth trajectories in the region. The scope conditions of this theory are ideally fulfilled by the 10 CEE post-communist EU member countries, as detailed in the following sections. However, the set of countries that the theory applies to is not limited temporally or geographically. Ireland in the 1980s is a historical example, as well as contemporary developments in other parts of the former communist bloc, including Croatia, Moldova or Serbia as well as some developments in the South of Europe. The research question tackled in this chapter is concerned with the role of MNCs in influencing HE developments. *Under what conditions are MNCs able to influence HE developments? How can MNCs influence the incentives of individual voters and of governments? Why do we notice these increasing enrolments and the limited funding?*

Most interestingly, the chapter argues that the employment scene for highly educated people has been fundamentally shaped by the entrance into these markets of foreign capital and of the multinational companies (MNCs) that dominate employment demand in the region.

The chapter is structured as follows: the first section emphasizes the peculiarities of HE in the region and the increasingly dominant role of MNCs. The chaper then situates this contribution in the relevant literature before presenting the argument in brief. It then proceeds by presenting macro-level data on inward foreign direct investment (FDI), on foreign affiliated statistics (FATS) and on the dynamics of HE indicatorsenrolment and fundingin the 10 CEE economies, showing their co-evolution. In the third section, aggregated empirical data on all these indicators is presented for the time-frame 2000-2012.[1] The model is presented in detail in the fourth section. Some theoretical predictions are then tested at the micro-level, using firm-level data from the EBRD, before concluding.

[1]Reliable comparable data is not available for the time-frame 1990-1999. This limitation is not worrisome, given that these countries' commitment to developing as market economies and as democracies became less questionable after the year 2000.

2 Motivation and Argument

It is surprising that HE has so far been forgotten in the political economy literature on the region despite its spectacular evolution and its crucial role in the political economies of these countries.[2] Certainly, in the context of the fundamental changes taking place in CEE, academic interest materialized first in other burning issues such as the complex simultaneous processes of democratization and marketization (Blanchard 1997, Gehlbach 2008, Svejnar 1999, 2002), the formation of party systems (Stark and Brust 1998, Tucker 2006), European integration (Hughes et al. 2002, Pop-Eleches 2008, Pluemper et al. 2006). This chapter aims to contribute to this literature by arguing that understanding the spectacular development of HE will provide more insights about important socio-economic developments in the region, most notably about the premises of these countries' ability to achieve economic growth through an increase in the sophistication of their economic activities.

Moreover, the evolution of HE is striking given that in this post-communist environment basic services such as health or pensions have deteriorated due to lack of funding, but HE seems to have fared particularly well. Enrolments have increased spectacularly and more students than ever from each cohort are now going to university in every country of our sample (as shown in the next section). This has happened despite rather low levels of public funding for HE. Moreover, data on employment levels show that people with HE degrees seem to be able to find jobs matching their qualifications.[3] Nevertheless, it remains puzzling that the evolution in the HE market does not seem to be matched by equivalent economic growth in these countries (see appendix). This chapter argues that the focus should be on *the way in which skills are used* in these markets and that MNCs play an important role.

The attempt to explain higher education evolution shifts attention to transnational actors, MNCs which are able to influence the employment market. A large part of the developments in HE in terms of funding and enrolment can be linked to and partially explained by the evolution of

[2] A more elaborate discussion of why HE, of all forms and levels of instruction, plays the most important role and why HE is central to the political economy of the region is included in the introduction. I note here only that if there is one level of instruction that is likely to be conducive to an increase in the sophistication of economic activities and in subsequent economic growth, then this is most likely to be the HE sector. Moreover, vocational training has almost disappeared in the region since 1989.

[3] Unemployment levels have been systematically lower for highly educated people in the region. A graph showing differences between the unemployment levels of highly educated people and general unemployment levels is included in the appendix.

MNCs.[4] This chapter explains why and how MNCs can have a *significant marginal effect on HE*. Indeed, the role of these companies after the fall of communism has been a topic of intense debate (Bandelj 2007, Bohle and Greskovits 2012, Drahokoupil 2009, Radosevic 2009). CEE countries, driven by a desire to upgrade their economies, have attracted foreign direct investment (FDI) with varying consistency and success. Independently of the effects that MNCs have been shown to have in the countries of destination, the desire and need for their presence have apparently been uncontested in the rhetoric of nearly all post-communist governments. Few politicians have contested their desirability, Viktor Orban in Hungary after 2008 being a notable exception. This is not surprising given their role as employers and as sources of capital. The extent to which an increase in the sophistication of these economies can be driven by FDI has drawn the attention of numerous studies (Goerg and Strobl 2001, 2002, Javorcik and Spatareanu 2008, Liu et. al 2008). The findings have been mixed and contingent on pre-existing domestic conditions in the destination countries of this foreign capital. This chapter aims also to add to this debate by arguing that skills determine and are in turn determined by the presence of MNCs.

This peculiar evolution of HE in the post-communist context is a puzzling development that can best be defined in terms of three dimensions: (i) enrolments have increased despite low funding; (ii) the employment levels of people with HE degrees have continued to be higher than those of the population as a whole despite the booming number of HE degrees in the market; (iii) however, this up-skilling has not led to similarly spectacular economic growth (see appendix for ii and iii). Hence, this chapter enquires into *what explains the increasing enrolment in HE despite its low funding?*

Given the complex mechanisms surrounding HE governance, the effects of MNCs on HE governance cannot be tested straightforwardly. Therefore, the chapter tackles these questions by developing a model that explains the puzzle. The model proposed here hypothesizes first that governments seek foreign capital in an attempt to contribute to the capitalization of their markets, but equally in order to create jobs, to increase the taxation base and hence to improve their economies. Historically, at the beginning of the transition in 1990, global companies were active in none of the CEE countries, so they can be considered exogenous to the model. Secondly, international financial institutions and the governments of developed economies provided financial assistance and advice on the condition that state companies were privatized. Thirdly, given the extremely limited

[4]The comparative chapter focusing on four countries in the region provides more context concerning the *links* of MNCs to HE development.

domestic capital accumulation and the idealized view of foreign capital, MNCs became the option of choice for governments in these countries.

The second part of this explanation, which completes the argument, is an analysis of the mechanisms through which MNCs are able to influence the evolution of HE when entering a new market (i) and once they begin to be active in that market (ii). *Thinking about this differently, an MNC would not relocate to a country if it could not find the required skills there, irrespective of whether the MNC's operations were inward-oriented or aimed at exporting goods or services.* Likewise, a company would not be able to operate once having moved to a country if the neccessary skills in the domestic market are not present or if it were not able to employ people from abroad. Therefore, the pre-existence of adequate skills is a necessary condition for an MNC to decide to invest and to continue its operations once there. The argument can be pushed further: governments and MNCs *barter* skills. Skillshigh skills such as those provided by universitiesare important because they are able to attract foreign investment and will in turn determine the upgrading capacity of these economies. The next part of the chapter provides an overview of the surprising higher education dynamics and the increasing role of foreign capital in these economies.

3 Aggregated Data

3.1 Expansion of HE: Enrolment and Funding

The indicators on enrolment in Figure 1 provide a clear picture: the number of people attending university in this region has sky-rocketed.[5] In Romania enrolments have increased six-fold and in Hungary three-fold.[6] Participation increased between 1990 and 2010 from a regional average of less than 30% of a cohort to around 70%. Moreover, HE participation is being encouraged to continue increasing.[7] The EU supports improved educational attainment resting on the assumption that education is closely related to economic growth at both individual and aggregate levels (See, for

[5] *Gross enrolment ratios* account for differences between cohort sizes by representing: "the total enrolment within a country in a specific level of education, regardless of age, expressed as a percentage of the population in the official age group corresponding to this level of education" (United Nations Educational, Scientific and Cultural Organization - Unesco).

[6] Gross enrolment ratios are a conservative indicator for HE increase given the large sizes of cohorts that came of age during this period (people born in the 1980s).

[7] According to the Lisbon Agenda, the share of the population aged 25 to 64 who have completed tertiary education should reach at least 40% by 2020. The current tertiary education attainment of people aged 25 to 64 is less than 30% in all the 10 countries studied (Eurostat).

instance, Hanushek and Wossmann 2010). Nevertheless, this expectation has only been partially met in CEE.

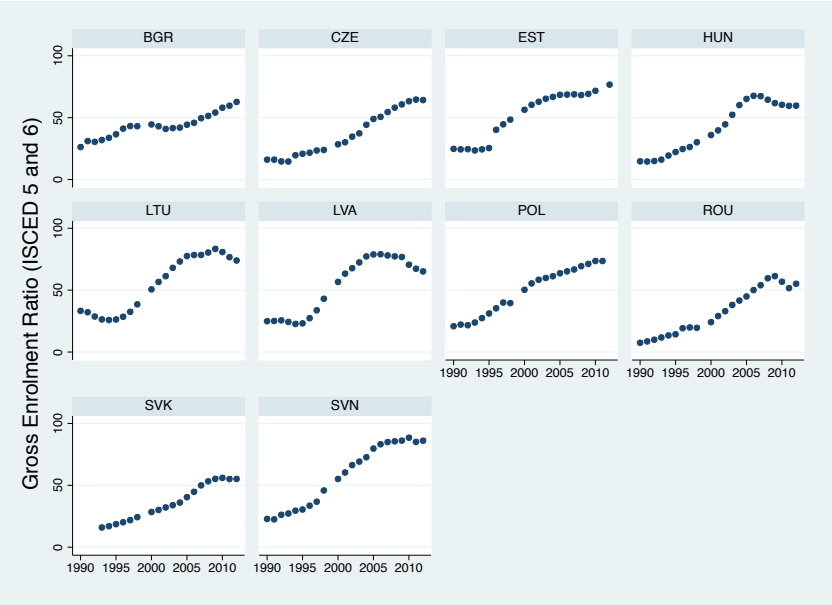


Figure 1: Gross Enrolment in HE
Measured as Percentage of a Cohort. *Source:* UNESCO Institute for Statistics.

At the same time, some of these countries have been more successful than others in devoting resources to higher education, as can be seen in Table 1. The indicator *public expenditure on HE as a percentage of government expenditure* shows the *government's commitment* to investing in HE as compared to other public services. The developments here do not show a similarly upward trend to that of enrolment. Funding has evolved rather uniformly: in Latvia in 2001, spending on HE was 2.48% of government expenditure; in 2010 it decreased to 2.24%, while enrolments doubled. In Slovenia it moved from 2.70% to 2.78%, while enrolment increased 2.5 times. This observed dynamic shows that governments have allowed higher education enrolment to increase, but that state budgets have not borne the costs of this expansion.

One alternative explanation for this outcome could be that private HE spending has increased sufficiently to support the increasing enrolments. As Dobbins (2009) explains, the *privatization* of HE has taken place across the board in all these countries and some students bear the costs of HE themselves. Nevertheless, as data shows, these costs are moderate. This is illustrated in

country/year	*2001*	*2005*	*2010*	*average spending 1999-2010*
Bulgaria	1.39	1.93	1.60	1.80
Czech Republic	1.78	1.99	2.18	2.11
Slovakia	1.84	2.13	2.07	2.12
Hungary	2.22	2.06	1.97	2.17
Croatia	-	-	-	2.21
Latvia	2.48	-	1.80	2.24
Poland	-	2.74	2.60	2.33
Romania	2.16	2.41	-	2.39
Slovenia	2.70	2.77	2.73	2.78
Estonia	2.95	2.75	3.04	2.86
Lithuania	3.63	3.09	3.10	3.13
US	4.40	3.80	3.40	**3.9**

Table 1: Public Expenditure on Higher Education
Measured as % of Total Government Expenditure.
Source: UNESCO Institute for Statistics.

the following tables (Table 2 and Table1), where data on private and public expenditure on HE is presented. Data on private HE is only available as an indicator *expenditure as a proportion of GDP*. It is also a relative measure, as a proportion of (increasing) GDP. Data distinguishing private and public HE expenditure is only available for the time-frame 1998-2010 and suggests that Latvia has indeed embraced the privatized form of HE expansion, more so than the rest of these countries. All the other countries spend relatively little on private HE as Table 2 shows. Compared to the UK, for instance, the countries of CEE spend less than three times less on private HE. All in all, the data on HE developments show a great increase in enrolment and a lower increase in spending. As HE developments cannot be understood in isolation from the labour market, we turn in the following subsection to employment dynamics.

3.2 MNCs: employers and sources of capital

The importance of MNCs in this region has two sources: they have become a main source of capital, so their share in capital formation, as suggested by foreign direct investment (FDI) data, is high. But, even more importantly, their *structural role* shows that they are key private employers, as revealed by foreign affiliated statistics (FATS) data.[8] This section presents data on *inward FDI*

[8] *Multinational Companies - MNCs* are used synonymously to *Transnational Companies - TNCs* and these are defined, in accordance with the data from FATS, as more than 50% foreign-owned.

country/year	*1999*	*2001*	*2003*	*2005*	*2007*	*2009*	*2011*
Bulgaria	...	...	...	...	0.32	0.32	0.24
Czech Republic	...	0.12	0.17	0.19	0.19	0.25	0.25
Estonia	...	...	...	0.34	0.27	0.30	0.35
Hungary	...	0.26	0.29	0.24	...	...	...
Latvia	0.57	0.57	0.67	...	0.46	0.47	0.47
Lithuania	...	...	0.45	0.47	0.43	0.54	0.51
Poland	...	0.40	0.45	0.41	...	...	...
Romania	...	...	...	0.42	0.53	...	...
Slovakia	...	0.05	0.12	...	0.20	0.27	0.27
Slovenia	...	0.29	0.30	...	0.28	0.19	0.19
Germany	...	...	...	...	0.16	0.20	...
UK	...	0.31	0.34	0.44	0.79	0.88	...

Table 2: Private HE Expenditure
Measured as % of GDP
Source: World Bank Development Indicators.

and on *inward FATS*.[9] The *structural power of MNCs* stems from three sources that reinforce each other. First, they are a key source of capital in these transition economies. Second, they are an important employment destination, and third, these companies are the ones most likely to be innovative in transition economies (EBRD Report 2014). These three aspects reinforce the structural power of MNCs and their ability to influence the government's and the voter's preferences and actions. While it is voters and governments making decisions over investment in education, it is the MNC that is the most important link between voters and governments through the crucial role it plays in the labour market.

FATS is a new indicator that provides insights into the economic impact of foreign investment in terms of job creation, which is most relevant for the purpose of this chapter (Eurostat, FATS statistics 2013). FATS only capture data on companies that are majority-owned by foreign entitities, and is thus more restrictive than the FDI indicator. FDI reflects the monetary value of foreign investments that exceed 10% of the value of a company. FATS indicators convey information about diverse aspects of the activities of foreign companies such as share of employment or number of employees (Eurostat, Statistics Explained: Eurofound, 2013). Relying on FATS rather than on FDI gives us more confidence that we are measuring the indicator of interest: the role of MNCs, not of domestic companies partly owned by foreign entities. FATS data is available for 2008-2010.

[9]Outward FDI and FATS are insignificant in these countries and hence not of interest for this chapter.

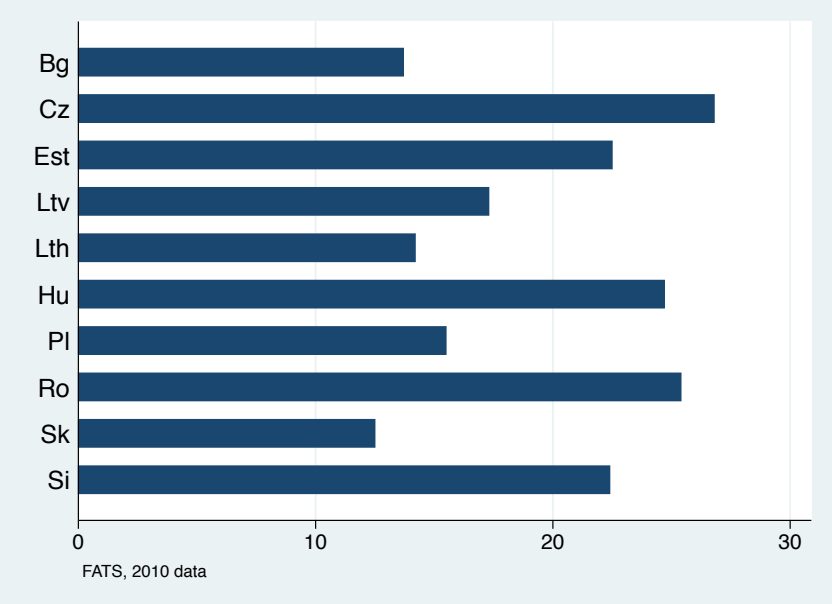


Figure 2: Percentage of Business Employment in MNCs
Foreign Affiliated Statistics (FATS). Year: 2010.
Source: Eurostat.

Further, we focus on the role of MNCs as employers in the CEE region. The indicator captures the number of people employed in business, i.e., industry, trade and services, excluding financial services. These are the sectors most likely to employ highly educated people and most likely to be carrying out economic activities leading to economic growth. Also, this is the rationale for which the EBRD includes these types of company in its surveys. So, in several of these ten countries, more than one quarter of employees in productive services are employed by MNCs. Data in Figure 2 is from the year 2010. In Romania approximately one million people out of the total of four million in private business employment were working in foreign-owned companies between 2008 and 2010. The Czech Republic, Romania, Hungary, Estonia and Slovakia have all had higher shares of their employees working in foreign-owned MNCs than the UK. In the Czech Republic 27% of employees were working in MNCs, compared to an average of 18% between 2008 and 2010 in the UK.[10] This percentage is higher in CEE than in any other member countries of the European Union except for Luxembourg. This is the most important indicator regarding the role of MNCs in influencing skill formation.[11] The percentage of people employed in foreign-owned companies, compared with

[10]These figures exclude companies that are less than 50% foreign-owned .
[11]The indicator showing the percentage of people employed in foreign-affiliated companies as a share of total

total business employment, is similar to and in some cases significantly higher than in the US. This aggregate data on employment supports the argument that MNCs can influence skill formation processes by being a major employer in these markets. Next chapter explains in detail by providing contextual qualitative evidence how foreing car manufacturers in Hungary are collaborating with local universities and how the foreign-owned IT firms collaborate with local universities even before moving their businesses.

business employment has been calculated by the author of this chapter by relying on Foreign Affiliated Statistics (FATS) and on Structural Business Statistics (SBS) provided by Eurostat.

country/time	*2001*	*2005*	*2007*	*2012*	*average 2001-2012*
Bulgaria	5	13.6	29.4	3.7	11.35
Estonia	8.6	20.6	12.4	6.7	8.90
Slovakia	7	5.1	4.8	3.1	5.57
Czech Republic	8.8	9	5.8	5.4	5.01
Hungary	7.5	7	2.9	10.7	4.78
Croatia	5.8	3.9	8.4	2.2	4.54
Romania	2.9	6.5	5.8	1.4	4.45
Latvia	1.6	4.4	8.1	3.5	3.92
Poland	3	3.4	5.5	0.7	3.37
Lithuania	3.6	3.9	5.1	2	3.32
Slovenia	1.3	2.3	3.8	0.3	2.00

Table 3: Foreign Direct Investment Flows as % of GDP
Source: Eurostat.

Further, we shall refer to a complementary indicator on foreign investment: FDI. Table 3 presents data on FDI flows as compared with GDP since governments are likely to be concerned by yearly GDP figures and their relation to yearly FDI flows. In order to explore the extent to which foreign investors have some bargaining power in these economies, we would need to compare how much of what is registered as having been produced on a yearly basis (GDP) is due to these foreign investments. The indicator on FDI flows is more relevant than that on FDI stocks, given the presumed short-term orientation of governments. Having data on the monetary value of these investment flows compared with the monetary value of the overall production in the economy is an indication of the relative importance of foreign investment. The advantage of FDI over FATS data is that it is available for a longer time-frame (1990-2010). Also, FDI data is more comprehensive than FATS statistics because it includes companies involved in all economic activities.[12] Table 3 shows that in 2007 30% of GDP in Bulgaria was due to FDI inflows. More than 5% of the GDPs of Estonia, Slovakia and the Czech Republic stemmed from FDI. Slovenia is the only country that stands out in this comparison, having the lowest levels of FDI.[13] These percentages are large because they can make the difference between economic growth and no economic growth on a yearly basis.

Given the structural power of foreign MNCs in CEE, it is unsurprising that MNCs are ought

[12]FATS captures the Business Economy (BUS) NACE Rev. 2 sections B-N, excluding K.

[13]Moreover, this is also the country that has registered the highest levels of outward FDI in the region. FDI has started to increase in Slovenia since 2005. It is the most atypical country in the sample, as will also be shown in relation to HE.

to also determine the choices of students, and thus the development of HE institutions. We need to note, however, that the prevalence of MNCs characterizes not only CEE states. MNCs are important in some advanced capitalist systems as well, notably Sweden and the UK. However, what is unique about the CEE countries is that foreign MNCs tend to be present as inward investment, but to a very limited extent as outward investment. What is unique about the countries of CEE is their asymmetric relationship with foreign MNCs. Moreover, the most sophisticated activities tend to be concentrated in MNCs, which is what reinforces this dependency and what makes this relationship so important. A recent report of the EBRD (2014) emphasizes the higher productivity of MNCs in CEE compared to domestic companies and compared to other advanced nations.

The macro-level dynamics point towards the co-evolution of HE enrolment and employment in MNCs. However, this co-evolution could be caused by various factors other than those outlined here. These dynamics could be the result of a general liberalization of these economies, which includes the opening of borders to foreign capital and the associated liberalization of the higher education market. This chapter argues that this co-evolution has not been accidental, and that causal links can explain the relatively low - but not uniform across the region - investment in education. In the next comparative chapter, more details about the expansion of HE institutions are provided, highlighting that the expansion preceded the entrance into these markets of MNCs and how international advisors, prominently the World Bank, have helped to steer these developments. The next section explains how the macro-level phenomena described in this section play out at the micro level. It details the conceptual model of the chapter.

4 Model

4.1 Game of Strategic Interaction

The model explains that MNCs have *a determining marginal effect* on the development of the higher education system. It seeks to explain the reasons why governments foster this evolution of the HE system in relation to MNCs departing from an assumed rationality of the actors. Lack of rationality and effciency losses due to corruption are likely to lead to even less efficient results. Therefore, the behavior modelled here is likely to be the best possible outcome. The model highlights the neglect of quality criteria (i.e. funding per student) in this process of expansion. Thus, the interaction between

the government, the voter and the MNCs explains the increasing enrolment with no significant change in financing. It is assumed in the model that in these countries the supply of skilled individuals is mostly assured by domestic universities.

The government has the prerogative and the capacity to regulate HE. It can decide on the provision of HE in terms of two main dimensions, enrolment and funding, which are interdependent if the quality of HE is not to be compromised.[14] Further, spending on HE can stem from two sources: private and public. Privatization of HE means that the government does not need to expend resources on extra enrolment, but will only need to liberalize enrolment. At the same time, private higher education could potentially be regulated in order to maintain high quality standards. *But higher enrolment means more satisfied voters and employers*, as has been suggested by interviewed policy-makers during field work and as extensively explained in Chapter I of this thesis.

Sophisticated models of voter preferences in HE have been proposed (Ansell 2010, Busemeyer and Iversen 2014). These influential works suggest that alliances can emerge between voters of different classes (low, medium and high-income) with different preferences concerning HE. The resulting alliances can support private or public HE, promoting models of elite or mass-level HE. I suggest that a less complicated mechanism is at play here, which stems from the peculiarities of the post-communist system. The planned economy before 1989 would have provided every HE graduate with a graduate-level job. Voters expect that HE will be the key to white-collar employment independently of social background or gender. Hence, the median voter has a preference for access to HE, given the expectation that a degree will lead to a better job no matter how widespread these degrees are in the market. These insights have been drawn from semi-structured interviews with university professors and students. In other work (Coman and Tarlea 2015) these preferences are tested on a representative sample drawing from the Life in Transition Survey of the EBRD.

During the very first stage of the transition, governments deregulated the HE markets and private HE institutions appeared. However, only lax quality standards were imposed, so the only optimization universities were facing was profit maximization. The lax quality criteria could be explained as a strategic action by the government, but also as a consequence of the low administrative capacity of the state. No matter what factors better explain this outcome, the intensive margin

[14] We assume the economy of scale will not make a supplementary HE degree less costly given that teacher/student ratios are dependent on funding/student.

(higher quality of HE) was ignored and only the extensive margin was considered. This implied high profit margins (revenues - costs). The main source of revenue was tuition fees and the main cost expenditure on staff, i.e., professors. Therefore the maximization problem was simplistically reduced to maximizing the number of students relative to the number of professors in both private and public universities. A more detailed explanation of the proxy for quality in HE is offered in the appendix.

I argue that the way in which this equilibrium has arisen is at least partially explicable by the fact that the governments were not able actively to steer these processes at the beginning of the transition. This could have resulted from a combination of factors, including lack of bureaucratic capacity and corruption. The fourth chapter of the thesis also explains that the differences between government's actions of the countries in the sample have determined different levels of funding for HE. More precisely, left-oriented governments have tended to spend more on HE as long as the sophistication level of activities has been high. Therefore, this is some indication that government partisanship has the potential to break this vicious cycle. Here, I focus on what has determined the relatively stable equilibrium which is in most cases one of low skills. In the following I will focus on showing why and how this equilibrium is stable. First, the assumptions of these strategic interactions are presented.

Assumptions

In order to explain the low-skills equilibrium three assumptions are made. These are supported empirically at length and depth in chapters I, III and IV of the thesis. This model presents the key mechanism at work and it directs the reader to the relevant sections of the thesis for more empirical support of the assumptions.

1. We assume that the government has a medium-run time framework for its policies. Hence, the government does not think beyond more than two electoral cycles (4-8 years). In the long run, however, the government would earn a greater payoff from selling its labour force as a product of high-quality educationa higher payoff in a high-skill equilibrium.

2. We assume tha the government will always give fiscal incentives to FDI in a transition economy, and therefore that taxes for MNCs will be lower. Subsidies and taxes have been employed complementarily in CEE after 1990. Once offering subsidies was no longer an option because

the countries belonged to the European common market, CEE governments have lowered taxes (Chapter III offers more insights on this).

3. We assume that MNCs will not have incentives to move to a CEE country and train its employees there in order to develop more sophisticated activities. MNCs will tend to offer non-R&D jobs in CEE countries and if these activities exist, they will be drawing on the pre-existing skill-pool. Therefore, voters will be better off with MNCs and poor-quality HE than with MNCs (requiring low-quality HE) and high-quality HE. Voter's expectations will be higher after having received high-quality HE, and these expectations will not be met, which will lead to an imbalance with the type of jobs MNCs have to offer.

I present here the extended-form game. I assume that there are three rational players: the government (G), the median voter (V) and the multinational corporation (M). The set of strategies are defined as follows:

The government chooses to offer or not to offer quality higher education (HE)

$$S_G = \{Q, NQ\} \tag{1}$$

The voter accepts or rejects this proposal, materialized as voting for the government which makes this offer or voting it out of office;

$$V_G = \{A, R\} \tag{2}$$

The MNC accepts and enters the market or rejects and does not enter (stays in its home country or invests elsewhere).

$$M_G = \{A, R\} \tag{3}$$

I define the payoffs in utils, expressing the utility that each player receives in each scenario. The chosen values of the utilities are informative in relative terms, but meaningless in absolute terms. They represent the preferences of each of the players as these have been derived from interviews and as explained in detail in the rest of the thesis. In what follows I explain these relative relations between scenarios. I then show why NQ-A-A is a pure-strategy Nash equilibrium.

The three players choose strategies that maximize their payoffs.

The Voter

1 High % of high-skilled jobs AND a high tax to voter → voter rejects

2 High % of high-skilled jobs AND medium tax to MNC → voter accepts

3 Low % of high-skilled jobs AND low tax on MNC → voter accepts

4 Medium % of high-skilled jobs AND low tax on MNC → voter accepts

The MNC

1 High return from upgrade AND Medium Tax on MNC → MNC accepts

2 High return from upgrade AND High Tax on MNC → MNC rejects

3 Low return from upgrade AND Low Tax on MNC → MNC accepts

Payoffs are defined in utils and they represent preferences of each of the actors:

QAA: G is satisfied (2), voter is satisfied (2), but not very satisfied because V is educated but unhappy with the job offered by the MNC, M is neutral (0)

QAR: G is unsatisfied (-8) (no MNC, but high costs of education), V is unsatisfied (-2)(no MNC, hence no job), M is satisfied, goes elsewhere and is a little better off than if having to pay high wages (0)

QRA: G is satisfied (3) (it does not invest and it has MNCs), V is neutral (no quality but same jobs) (3), M is extremely satisfied (cheap labour force)(5)

QRR: G is unsatisfied (-2)(no MNCs), V is unsatisfied (-8) (no education, no MNC), M is satisfied (can go elsewhere)

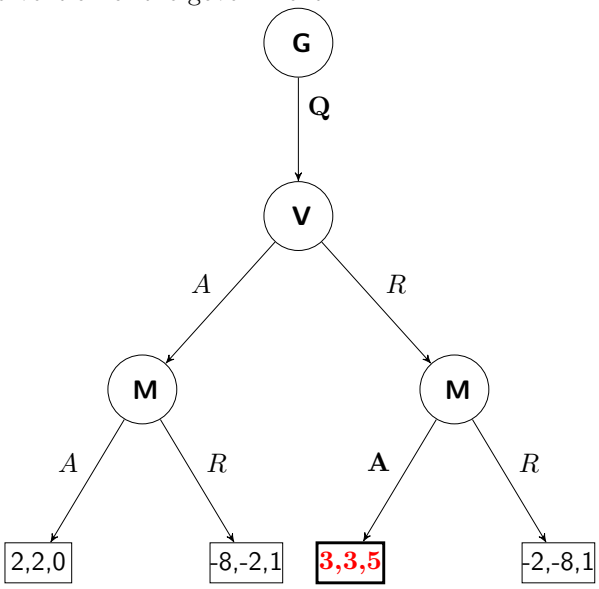
NQAA=QAA

NQAR=QRR

NQRR=QAR

These payoffs represent the values for each of the choices that can be made by the actors. The high equilibrium implies high investment in skills, high demand of high skills and high productivity and the adaptation of each of the actors to this equilibrium. The low equilibrium implies low productivity and low investment. This is a baseline model and, as chapter IV shows, there are differences between countries in terms of the sophistication level of activities, some countries have been able to move to the right branch of the tree - the so-called virtuous branch - through a strategic

intervention of the government.



The tree is symmetrical. Not accepting quality equals accepting non-quality. This formulation implies that, controlling for everything else, the reasons why MNCs enter new markets in CEE is related to the kind of skills they find in the market. It aims to explain *the marginal effect* of HE on the decisions of these three actors. It also argues that, once companies are active domestically, they will influence the production of certain types of skills and that the effect of MNCs on the domestic skill pool is virtually identical when entering the market and once being in the market.

This form of the game is extremely simple and further parameters can be added in order to determine the threshold at which the equilibrium moves from one branch of the tree to the other. Even so, this decision tree allows for an understanding of the political foundations and determinants of the development of HE in relation to requests from MNCs and vice-versa. This formulation is partisanship-blind. Chapter IV, drawing on Burgoon (2012) and Whitefield and Loveless (2011), shows that government partisanship can have an effect even in the highly restricted space of maneuvre of CEE. This tree explains the relevance of MNCs as employers of highly skilled individuals and it shows that the stable equilibrium that can be reached is one characterized by low or medium-level skills. This is further explored in the empirical sections.

Potential Outcomes Scenarios

Three alternative scenarios are considered. First, the potential scenario is considered in which MNCs do not enter these markets. Second, we consider the alternative in which the government

increases the quality of HE and, third, the options available to a voter with good quality HE are also spelled out. A first potential scenario is that in which MNCs did not enter the markets in CEE despite the efforts of governments to increase higher education quality. This would certainly lead to a situation in which highly educated people would either i) migrate, ii) decide not to enroll at all or iii) contribute in the long run to the development of domestic firms.

Putting this argument to the test, we could also ask: *What if the government decides to invest more in higher education?* If the government was to increase education spending/student, this would lead to a better quality of education output. So, what are the premises that the government would deviate from the strategy outlined above? First, the government would need to reduce the number of HE graduates, since it would be too expensive to produce an equally large number of degrees at a higher level of quality. Good quality could be obtained by cutting on enrolment, which is likely to be unpopular with voters. Second, this could increase the value of the labour force, which would eventually attract MNCs doing more sophisticated activities. We could expect that this would make MNCs worse off: i) the supply of people with degrees to choose from would be more limited; and ii) it would increase their wage costs. Therefore, MNCs would choose other destinations to place their investment, which would make the government worse off by reducing its tax base and failing to attract more foreign capital. Therefore, the government will have in effect no incentive to deviate by offering good quality education given the assumptions. Nevertheless, a more future-oriented government would be willing to invest in HE and this possibility is explored in chapter IV.

Thinking about this counterfactually from the voter's perspective, one could argue that if the government offered good quality education, this would automatically imply a deviation of the voter to better quality. If the voter's skills were not met in the domestic market, an over-qualified individual would be able to find employment to meet these skills abroad if the utility of working in a MNCs was smaller than the utility of working abroad. The capacity of these economies to retain talented people is judged to be very low according to surveys conducted by the World Economic Forum (WEF 2014). Also, more investment in HE could deter MNCs from entering these markets if it also led to higher taxes. Nevertheless, if this investment in HE was made, no matter the costs borne by the government in the short term, this could at a subsequent point attract MNCs looking for the superior skill structure attained in the meantime.

4.2 Change in Supply of HE in Relation to Demand for Skills Stemming from MNCs

The diagram above highlights the factors that influence skill formation once MNCs are active in a domestic economy as well as the moment it decides to move its location. Before proceeding with providing the mechanism of the argument, one further aspect needs to be clarified. This relates to the decisions of MNCs to relocate (to enter) or to remain in a given location (stay) once there. This chapter argues that these decisions are essentially identical in their effect on higher education and on the effect the existing pool of HE graduates has on their decisions. Moreover, the thesis argues that it is the marginal effect of education that is important and this marginal effect is essentially identical every time this interaction takes place. This formulation is agnostic regarding other factors that attract MNCs to a new economy. In the following, I show how the existing skills pool is likely to influence the decision of MNCs to enter domestic markets and will eventually also influence their evolution once there.

MNCs are generally acknowledged to be significant employers across Europe, with corresponding influence in national collective bargaining systems due to their capacity to move production and jobs across borders (EU Commission Agency Eurofound 2009 highlights their influence). MNCs are thus believed to have more room for manoeuvre than domestic companies (Eurofound 2009). Hence, they will be more able to impose their own strategies in a destination economy. This section argues that an important factor attracting a company to a particular country is the availability of skilled labour. The argument draws on the influential work by Edward Glaeser (2011), where he argues that the prosperity of a city rests on the availability of skilled labour in its immediate proximity. The argument is transposed here to refer to an entire domestic economy.

In the following, some formalization concerning the change in supply of HE depending on the demand coming from MNCs is presented. The government is considered to have a facilitator role and it is thus not included in the model. I assume an equation for the supply of higher education of the following shape:

$$HE_t^S = a_0 + b_o HE_{MNC_t}^D \tag{4}$$

where HE_t^S represents the supply of HE at time t; a_0 is the autonomous supply of HE (the MNCs

demand for HE is 0); b_0 represents the magnitude of change in the supply of HE given one unit of change in the demand for HE.

I further decompose the MNCs demand for HE

$$HE^D_{MNC_t} = a_1 MNC_t \tag{5}$$

with MNC_t representing a measure of the number of MNCs at time t, and a_1 the magnitude of change in the demand for HE with a change in the number of MNCs.

Further, MNC is written as

$$MNC_t = a_2 MNC_{t-1} + b_2 HE^S_{t-1} \tag{6}$$

where MNC_t is the number of MNCs already established in the country; HE^S_{t-1} is the supply of HE at time $t-1$. a_2 represents the elasticity of MNCs (moving to the DME of interest) to world output; and b_2 is the magnitude of change in the number of MNCs given a one unit change in the level of HE supply existing in the previous year.

After plugging (2) and (3) into (1), and computing the periodical change, the result is:

$$\Delta HE^S = \frac{a_1 a_2 b_0}{1 - a_1 b_0 b_2} \Delta MNC \tag{7}$$

where $\frac{a_1 a_2 b_0}{1-a_1 b_0 b_2}$ is the multiplier that accounts for the between-countries variation.

The model thus formalized explains the way in which MNCs influence the supply of HE. This model does not account for the nuances of HE development (enrolment and financing, so we consider it to be a ratio of financing/enrolment). What this equation does is explain the fact that the supply of HE is determined by the presence of MNCs and subsequently MNCs determine the supply of HE.

I argue that the government has played the central role in this process of expansion of HE by acting as facilitator. The most efficient way in which the government can reconcile these requests, i.e., attain this two-fold goal of increasing education and employment while continuing its own minimum investment, is by allowing enrolment in higher education institutions to increase, i.e.,

through liberalizing this, and thus achieving its first goal. The higher share of highly educated people also attracts MNCs interested in employing these skilled people, allowing the government also to achieve its second goal. Given that both MNCs and students follow their own interests, the government only needs to liberalize HE and to spend moderately on it. This strategy by the government is also in accordance with the neoliberal paradigm actively pursued by International Financial Institutions (IFIs) in these countries around the year 2000. A detailed analysis of differences in HE financing in accordance with the partisan composition of governments is included in the chapter of this thesis on *Political Determinants of HE Financing*.

At the same time, the increase in enrolment in HE institutions does not (always) accompany an increase in expenditure on education. The government does not need to increase spending for two reasons: students are willing to pay moderate tuition fees themselves, which has led to an intense privatization of the HE sector (as explained in the chapter on HE in Romania) and, secondly, a government-funded competitive HE sector is not necessary to meet the demands for skills coming from MNCs moving into these economies, as has been shown above. These MNCs are mostly attracted by the good skills/wage ratio, which also makes them less willing to pay higher corporate taxes that could eventually be used for financing education. This interplay between the government and the MNCs explains the expansion of the higher education sector with relatively little financing.

The evolution of HE, defined in terms of *enrolment* and *financing*, is a result of the way in which the government responds to requests from voters for two types of goods: *education* and *employment*. The liberalization of HE pursued eventually by all CEE governments was also a consequence of the Europeanization process in HE that affected both older and prospective member countries of the EU, as detailed by Dobbins (2009). At the same time, liberalization in HE corresponded to more general privatization and both were in accordance with the neoliberal paradigm broadly embraced in the region at that time.

5 Firm-Level Data

A good test of the empirical implications of the conceptual model outlined in the first part of the chapter would be an empirical analysis of the behaviour of firms. Two aims are to be achieved by carrying out this micro-level analysis. On the one hand, it is crucial to test whether the correlations at the macro level exist at the micro level as well. It is well known that correlation at group level,

i.e., country, does not automatically imply correlation at the individual or firm level. Secondly, a more complex exercise is to test whether we can sustain causal claims concerning the relationship of HE to MNCs. This is achieved by relying on analytical narratives in the next chapter. The next section includes some descriptive statistics regarding the data on individual firms relied on, followed by some aggregated data capturing the relations of interest and ends with some estimations at the firm level.

5.1 Data Description

The data analysed in this part of the chapter was collected by the European Bank for Reconstruction and Development (EBRD) in its Business Environment and Enterprise Performance Survey (BEEPS). These surveys entailed the collection of cross-sectional data on companies from the 10 countries of interest for this chapter and from other countries in CEE and Central Asia for the years 2002, 2005 and 2009.[15] BEEPS takes the form of face-to-face interviews with business owners and top managers. The surveys are administered by private contractors. BEEPS has been widely used for analyses of the business environment in these countries (Frye 2010 being one prominent example in political science literature).

The questions in the survey have evolved over its different rounds.[16] The changes in the types of company - in terms of size, sector and ownership -included in the survey makes the comparative analysis at the aggregate level rather difficult.[17] Hence, I also provide some snapshots from the 2009 survey, which is the last cross-section available. The 2009 data can be used to describe the population of interest as it is entirely representative of the population.

The survey from 2009 is representative for the non-agricultural private sector in these economies. Stratified random sampling was used in 2009, while quota (non-random) sampling was used in the previous rounds of the BEEPS. Thus, this paper uses probability weights in the analysis of the

[15]The EBRD surveys contain data on the same types of enterprise as do the data on foreign companies active domestically (FATS) and on all companies active domestically (SBS) provided by Eurostat, on which the first part of this chapter relies. The macro-level data is hence perfectly comparable to the micro-level data.

[16]As such, the data collected since 2008 has been incorporated into the Enterprise Surveys conducted by the World Bank in other parts of the world.

[17]Before 2008, there were three levels of stratification: industry, size and region. In 2002, quotas were used for sector, size (number of employees) and location, and ownership quotas (foreign and state-owned) were added. Exporter quotas were added for the 2005 round. The survey universe consisted for the 2002 and 2005 rounds of industry and most service sectors. Firms that operated in sectors subject to government regulation, such as banking, electric power, rail transport, and water and waste water, were excluded. Only formal (registered) companies with two or more employees and at least three years old were eligible for interview. There were no restrictions on ownership.

2009 data. Aggregated data regarding the relevance of HE is presented in the following figure. Since 2008, the survey universe has consisted of the majority of manufacturing sectors (excluding extraction), the retail and residual stratum that includes most services sectors (wholesale, hotels, restaurants, transport, storage, communications, IT), and construction.[18]

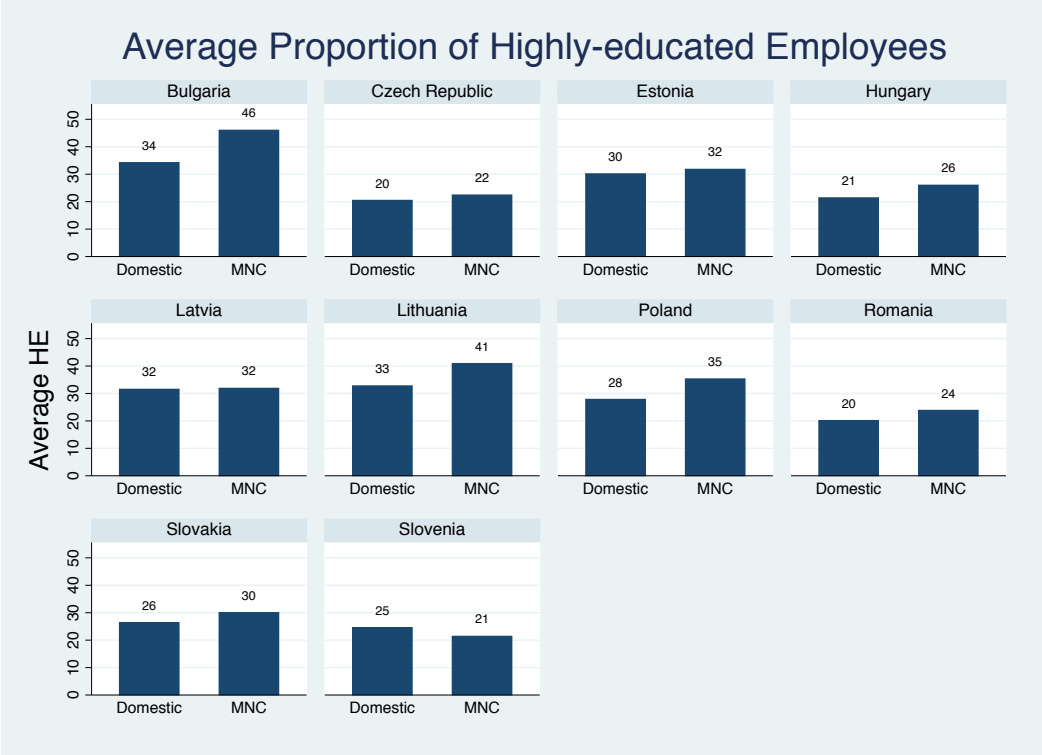


Figure 3: Percentage of Employees with HE degrees (firm-level)
Descriptive Statistics from the BEEPS Survey in 2009.

Figure 3 with data from 2009 distinguishes between the proportion of employees with HE degrees in MNCs and the equivalent proportion in domestic firms.[19] The data shown in this figure is representative for the population of firms in each country. As can be seen, MNCs tend on average to employ more staff with HE degrees. Differences exist between countries and can be the result of a series of factors, such as inclusion rates in HE (gross enrolment rates) that have

[18]Only registered companies with five or more employees are eligible for interview. Firms in 100% government (state) ownership are no longer eligible to participate in BEEPS. The sampling frame is derived from the universe of eligible firms obtained from the country's statistical office. The strata for BEEPS are firm size, sector and geographic region within a country. Firm-size levels are 5-19 (small), 20-99 (medium), and 100+ employees (large). Sector breakdown is usually into manufacturing, retail and other services.

[19]We note that in all of these countries domestic firms outnumber MNCs.

differed historically between countries, as shown in the previous section. At the same time, the differences between countries in terms of economic development are stark, and therefore ways in which skills are used also differ. These differences across countries are explored in the next chapter. This chapter highlights the individual role of MNCs as employers of HE people.

The sector breakdown was carried out in accordance with ISIC codes, as follows: manufacturing (1000/3499), construction utility (3500/4399 and 6800/6899), retail (4400/5799), IT and finance (5800/6699), professional and administrative (6900/8299), other (8400/9900 and 0/1000). IT and finance does not include the banking sector (which is more than 80% foreign-owned in every country) because this is subject to government regulation and does not meet the BEEPS criteria. The firm-level regression analysis uses a five-point category for ISIC. This variable is used with the aim of controlling for a self-selection effect of MNCs in sectors that require comparatively more highly educated employees.

Country/Year	**2002**	**2005**	**2009**	**Total**
Bulgaria	201	217	214	632
Czech Republic	156	182	153	491
Estonia	148	174	226	548
Hungary	179	420	201	800
Latvia	128	155	226	509
Lithuania	183	181	207	571
Poland	339	636	311	1,286
Romania	209	501	422	1,132
Slovakia	128	160	205	493
Slovenia	141	152	199	492
Total	1,812	2,778	2,364	6,954

HE=% of people with HE in company

Table 4: Dependent Variable: HE
Number of Observations per Country per Year.

Dependent Variable

The dependent variable HE represents *the percentage of employees with HE degrees in a company* and is measured on a 0 to 100 scale. Its distribution is positively skewed so we apply a logarithm. Using the logarithm normalizes its distribution (see Figure **??** in Appendix). The indicator used for measuring HE represents "met demand", namely the percentage of people with HE degrees working in a company. Hence, this indicator captures the equilibrium point where HE demand and supply meet. Table 7 shows the number of observations of the dependent variable by country and year.

The main regressor: MNC

In all five models presented in Table 10 *MNC* is the dummy variable and represents the main independent variable (1 if the company is majority foreign-owned and 0 otherwise).[20] So, the main concern is to test whether a foreign-owned company is more likely to employ highly educated people.

Next we present an overview of the summary statistics corresponding to the variables we identified as relevant for our model (see Table 5). We identify as of particular importance the variable of size, which splits the sample on the basis of number of employees. We tabulate the distribution of firms in accordance with this classification (see Table 6 below).

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
HE	21.889	26.352	0	100	8600
MNC	.113	.317	0	1	8600
export	.094	.293	0	1	8600
ISIC5	1.969	1.027	1	5	8521
size	1.738	.799	1	3	8592
RandD	.2486	.470	0	2	9270
quality	.2182	.413	0	1	9186
exporting	.0925	.289	0	1	9270

Data from 2002, 2005, 2009

Table 5: Summary Statistics - Firm-level

Size	**Domestic**	**MNC**	**Total**
small(< 20)	3,914	249	4,163
medium(20-99)	2,213	299	2,512
large(100 and over)	1,493	424	1,917
Total	7,620	972	8,592

BEEPS data from 2002, 2005, 2009

Table 6: Companies According to Size and Ownership

[20]The variable was coded in order to distinguish companies that are more than 50% owned by a foreign entity. This is consistent with the operationalization of Eurostat and used as such in foreign affiliated statistics (FATS).

5.2 Estimating Demand for HE

This part of the chapter estimates the demand for HE stemming from companies active domestically, in an attempt to explain the types of firm where skills are used and thereby to identify the relevant employment destinations for highly skilled individuals. The results show (see Table 7) that MNCs are more likely than domestic companies to employ HE graduates. The estimation of the (met) demand for HE degrees is operationalized in several steps, using basic statistical models[21].

A preliminary analysis shows that the *differences in means* between MNC and non-MNC in terms of employment of highly educated people is different from zero and this is statistically significant. We use country-fixed effects in order to control for all the intrinsic characteristics of the business environments in each of the countries and estimate difference in means again in Model 1. Models 2, 3 and 4 use OLS with country-fixed effects to explain within-country variation. Therefore, controlling for macro-level characteristics is no longer needed. Therefore, we only control for firm characteristics in Regression 2, and pool all the years. Given that questions have changed during the different rounds of the survey, and that hence not all sectors are included in the same way each year, it makes sense to also analyse the data using year dummies (3 - only with data from 2009). These analyses are a first attempt to explain how the evolution of HE is linked to the entrance into the market of these MNCs. Endogeneity concerns exist and the next step in the analysis is to use instrumental variables, given the aim to identify key effects that are causal rather than mere correlations.

The estimated coefficient on our main-interest dummy-variable MNC comes with a positive sign throughout all models specified. While we display all specifications, we realize that a simple least squares bivariate regression will omit many variables of interest, giving our estimation a large upward bias. Once we control for size of firm, type of industry, country of origin and population of the city where the firm is located, the magnitude is reduced. A very naive interpretation would state that an MNC will employ around 10% more staff with HE degrees than its domestic counterpart. However, these are imperfect and insufficient measures of the dynamics between MNCs and educational enrolment, and we therefore refrain from drawing precise policy implications.

Other firm-level controls

[21] We are estimating met demand because the survey does not distinguish between who employers would like to employ and who they are able to employ. Hence, we estimate the point at which supply and demand of HE meet.

Table 7: Regression Table

Dependent Variable: Percentage of Highly Educated Employees in a Company

	(1) Country FE	(2) Country FE	(3) Country FE	(4) Country-Year FE
MNC	8.428***	10.30***	3.214*	8.931***
	(0.943)	(0.923)	(1.305)	(0.900)
Retail		5.272***	1.294	5.104***
		(0.573)	(0.822)	(0.574)
IT-Finance		6.040***	−0.0373	4.883***
		(1.103)	(1.542)	(1.079)
Admin		32.38***	30.75***	29.07***
		(1.308)	(4.707)	(1.329)
Other		18.84***	14.09	16.25***
		(1.925)	(9.308)	(1.909)
Size		−4.478***	−2.129***	−4.844***
		(0.358)	(0.556)	(0.354)
R&D		2.469***	3.036***	2.971***
		(0.573)	(0.723)	(0.566)
Quality		3.589***	5.078***	5.185***
		(0.621)	(0.918)	(0.625)
Exporting		1.117	−1.326	1.113
		(0.934)	(1.121)	(0.915)
City larger than 1 mill.			−11.52***	
			(2.792)	
250.000-1 mill. city			−2.925	
			(1.883)	
50.000-250.000 city			−8.771***	
			(1.298)	
Less than 50.000			−12.77***	
			(1.141)	
2005				−8.261***
			(0.763)	
2009				−13.22***
			(0.752)	
Constant	20.94***	21.78***	25.85***	30.26***
	(0.640)	(0.868)	(1.968)	(1.087)
Observations	8600	8431	2797	8431
Adjusted R^2	0.046	0.174	0.172	0.204

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Models 2, 3 and 4 control for the type of industry, whether the firm invests in R&D, whether it has quality certification and whether it exports

Certain economic activities are more likely to demand high skills than others. Moreover, MNCs do not choose their areas of activity randomly. Hence the regression controls for the *industry-specific sector*, which should clarify whether MNCs are more skill-intensive. Hence also, including this control clarifies whether, within a given sector of economic activity, an MNC is more likely to employ HE graduates than is a domestic company. Data in Regression Table 10 shows that the effects are significant both statistically and substantially. Companies active in administration are more likely to employ highly education individuals than companies in industry. Similarly, companies in retail are more likely to employ HE individuals as well.

The size of the company is also expected to influence the percentage of people with HE degrees within a company. Large companies tend to employ fewer highly educated people as a proportion of their staff. This finding is not surprising, given the level of sophistication of firms in these economies. Large companies are not expected to be focusing on research and development or consequently to have a large share of their workforce which is highly skilled. *The sophistication level of companies* will also determine the likelihood of their employing people with HE degrees. I use the existence of quality certification (ISO) and of research and development activities (R&D) within the company as proxies for sophistication, following Commander and Kollo (2008).

Exporting companies are expected to be the companies that are competitive in international markets and would therefore be more likely to employ highly educated people. However, our analysis shows that the coefficient is insignificant and sometimes even negative. So exporting companies tend to employ fewer people with HE degrees, or the effect of this is insignificant. This seems counter-intuitive. But this argument is supportive of the DME model (fully explained in the introduction). Exporting companies are not necessarily producing sophisticated products. On the contrary, on average exporting companies do not hire more people with HE degrees than do non-exporting companies, controlling for everything else. This is not surprising given the information we have regarding the sophistication level of exports, which are closer to being raw materials than sophisticated goods. Further supporting the argument that the companies in the region provide little value-added is the claim of Bohle and Greskovits (2012), who consider these companies to be "the sweatshops of Europe", i.e., exporting assembled goods to Western Europe. Both exporting goods close to raw materials in terms of manufacturing stage as well as assemblying goods requires little sophistication

The regressions also control for *regional differences*. Building on the work of Glaeser and Resseger (2009) and Glaeser (2011), I also test the argument concerning the complementarity between cities and skills. It is indeed the case that companies recruiting people with HE degrees tend to be concentrated in larger cities. The reference category is the capital city, hence the coefficient for the smaller cities is negative. Once we control for the size of the city, the coefficient for MNC also decreases, which shows that MNCs tend to concentrate in larger city. This is unsurprising given that skilled individuals tend to concentrate here as well.

All in all, what this empirical exercise has shown is that more highly educated individuals tend to work in MNCs compared to other domestic companies in each country of the region. This reinforces teh structural relevance of MNCs in the region and for the development of HE in particular. Going further, the next chapters will show that governments have had slightly different strategies towards HE expansion.

6 Conclusions

The aim of this chapter has been to show that governments in CEE ought to respond to moves of MNCs when regulating HE and that the relationship between MNCs and HE institutions can be crucially mediated by voters. Therefore, the chapter has presented a mechanism meant to explain that the presence of multinational companies has influenced the development of the higher education sector in CEE and vice versa. MNCs have been shown to have significant structural power in CEE by being both an important source of capital and one of general employment. Moreover, *MNCs are key employers of highly educated individuals* - as firm-level statistics show - and hence able to influence the demand for labour in these countries. One natural consequence identified and tackled in this chapter then, has been the inability of these countries to improve the quality of their higher education given the interdependencies that exist between employers, voters and governments in power. This article thus contributes to demonstrating the structural relevance of foreign capital in these economies. The intuition of the argument is straightforward: economies dependent unilaterally on foreign capital rely on more than just the capital and the managerial skills of the MNCs. These determine the incentives structures in the entire economy, including the incentives for the development of the HE system: students' and governments expectations and actions.

In particular, it is argued that the governments in each of these countries have played a central role in facilitating the *supply* and *demand* of skills. Governments have enabled an increasing role for foreign firmsmultinational companies (MNCs)that demand HE degrees. The need of MNCs for relatively low to averagely high skills explains the evolution of HE supply, as this chapter argues. In a first step the government responds to popular demand for the liberalization of HE and allows the supply of HE to meet the demand in a free-market-economy spirit. Similarly, MNCs find the product of this HE market equilibrium to be a suitable resource for their businesses, exploit it, and therefore ensure a self-sustainable dynamic. Neither the MNCs nor the government on their own have been able to influence this outcome. The coexistence of these two institutions chasing their own interests has led to this outcome.

Another added value of this research is its empirical strategy and the material that supports the claims. The chapter relies on both FDI data and on FATS statistics. This type of data has not been used so far in research analysing foreign companies in these countries. Furthermore, Noelke and Vliegenthart (2009) do not refer to Romania or Bulgaria as being particularly dependent on FDI, but it is precisely these two countries, more than any others in this sample, that depend on foreign companies for employment. Bulgaria and Romania have somehow been missed in these previous cross-national comparisons because of a focus on FDI statistics rather than on FATS statistics on employment. Most importantly, the chapter provides an individual-level mechanisms and predictions to support macro-level phenomena drawing on individual-level data. The focus lies on the individual incentive, on the individual move of the government, of the voter and of the MNC.

From a public policy perspective the findings of this research also imply that improving higher education outputs requires that governments foster both companies carrying out sophisticated activities and investment in good quality HE. Next chapter will show how governments in Hungary and Poland have managed to make these improvements simultaneously.The chapter identifies a treshhold starting where governments can invest in human capital. Thus, this research provides support for the argument that the evolution of higher education has been influenced by the entrance into these markets of foreign companies. However, some limitations of this work should be emphasized. Even though this research avenue seems promising because both the BEEPS survey and the FATS data on foreign MNCs will continue to be collected, the time-span covered by the

existing data is rather limited. However, we can expect that the findings sketched above will be complemented and tested again once more data points become available.

Lastly, I would like to draw attention to the fact that the model presented in this chapter is also surrounded by noise. Hence, the relationships described do not follow this model smoothly. However, what we see here is a model explaining the rationale surrounding these complex and hence possibly noisy phenomena. This is different from the usual discussions surrounding HE perceived as a chaotic phenomenon.

7 Appendix

7.1 Quality of HE

Increase in enrolment but not in funding

We assume HE enrolment as a function of funding allocated to HE (both public and private) and an unobservable variable that captures the level of quality of HE. Let *HE* denote enrolment in higher education, X be the amount of funding and Q the unobserved variable. Then we obtain:

$$HE = f(\frac{X}{Q}) \tag{8}$$

where *f(.)* is a homogenous function of Degree 1. In our framework we observe *HE* and X, while Q is unobserved. When we simulate with this model the reality observed over the period 1989-2010 in Romania, we get the following:

We know that *HE* has increased at a greater rate than X has. At this point it is useful to define 3 growth coefficients of our 3 variables respectively. Let λ be the growth coefficient for *HE*, γ for X and σ for Q respectively measured over the period 1989-2010. So the equation looks like this:

$$HE_{1999} = f(\frac{X_{1999}}{Q_{1999}}) \tag{9}$$

$$HE_{2010} = \lambda HE_{1999} = \lambda f(\frac{X_{1999}}{Q_{1999}}) \tag{10}$$

From the way we defined this function we also know that

$$\lambda f(\frac{X_{1999}}{Q_{1999}}) = f(\frac{\gamma X_{1999}}{\sigma Q_{1999}}) \tag{11}$$

and from the homogeneity assumption

$$f(\frac{\gamma X_{1999}}{\sigma Q_{1999}}) = \frac{\gamma}{\sigma} f(\frac{X_{1999}}{Q_{1999}}) \tag{12}$$

So from (7) and (9) we conclude that

$$\lambda HE_{1999} = \frac{\gamma}{\sigma} f(\frac{X_{1999}}{Q_{1999}}) \tag{13}$$

Given (6) we can then write

$$\lambda = \frac{\gamma}{\sigma} \tag{14}$$

Now remember that in CEE HE enrolment grew faster than funding, which translates into

$$\lambda > \gamma \tag{15}$$

From (11) and (12) we can now conclude that

$$\sigma < 1 \tag{16}$$

Recall that σ is the growth coefficient of the variable Q. We can therefore conclude that, when taking the model to the data available for CEE, the estimated trend in the quality of higher education has been a descending one and that the level of quality has decreased over the period 1999-2010.

7.2 Supporting Tables

Firm-level Statistics

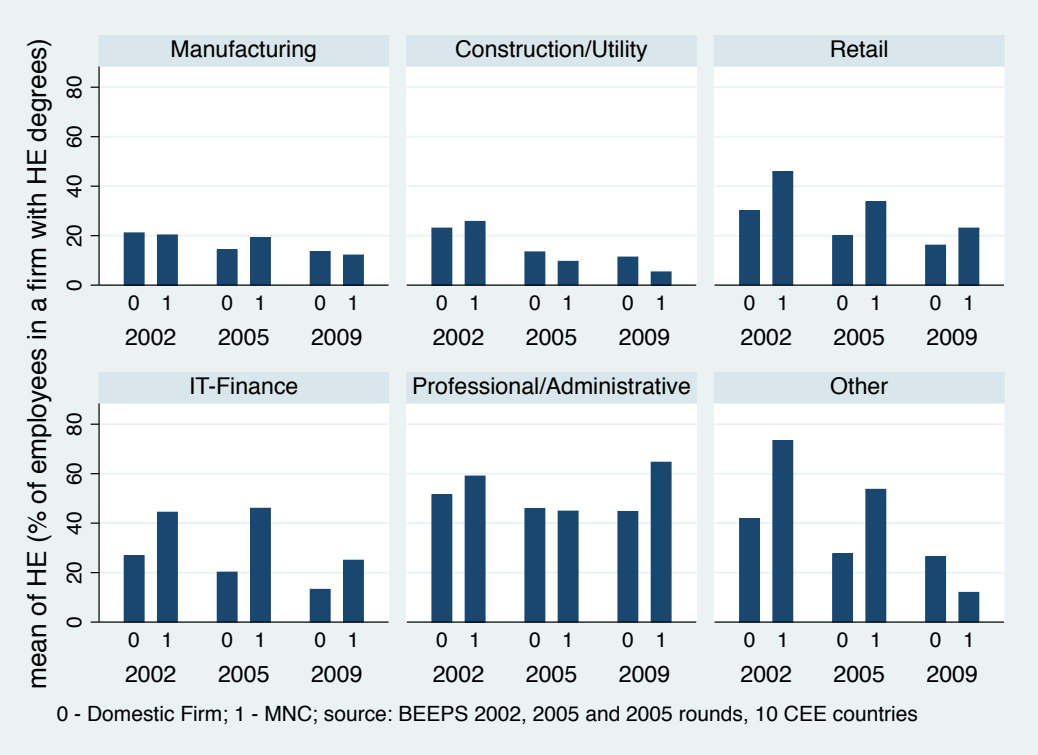


Figure 4: Highly Educated Employees in Firms
Firms According to Economic Sector Coded According to International Standard Industrial Classification (ISIC). *Source:* BEEPS.

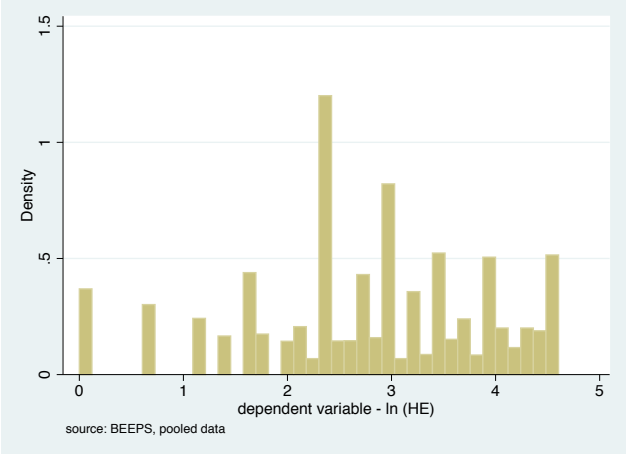


Figure 5: Frequency Distribution of the Normalized DV HE

7.3 Cross-validating the argument

Unemployment of Highly Educated People

One way to cross-validate the argument that MNCs have a determining role in the evolution of HE is to test whether highly educated people are absorbed into the labour market. If people with HE degrees are more likely or equally likely to be unemployed by comparison with the population as a whole, then one could argue, as is often argued in public discourse in the region, that there is a mismatch between the demand from employers for skills and what education institutions supply in the market. However, this is not the case, as Figure 5 shows. People with HE degrees are less likely to be unemployed than people without. This should not be surprising, as the former are expected to be more flexible in the labour market and hence more employable. Also, research in economics has shown by using individual-level data that people with HE degrees are more employable than people without (Svenjar 1999 offers a comprehensive overview).

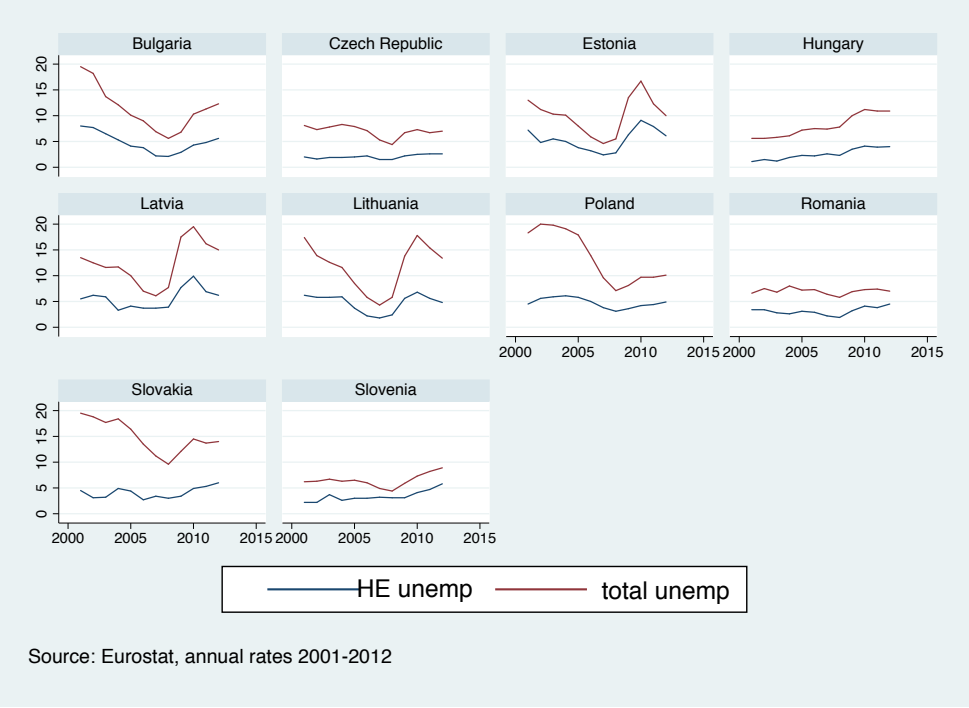


Figure 6: Unemployment Levels By Level of Education
Total Unemployment versus Unemployment of Highly Educated People.

Individual Preferences for Employment

Another way to cross-validate the argument is by thinking about the employment preferences of highly educated people. If one did not expect highly educated people to choose MNCs as their preferred employment destination, this could be a potential challenge to the argument that MNCs have determined the production of skills in CEE. Therefore, the assumption that individuals with HE degrees will choose MNCs as their preferred employment destination should be tested. I argue that there are two ways to test this hypothesis.

The first option would be to test whether similar companies in terms of size, sector, geographic location and nature of job differ in terms of their workers compensation. If two companies that are almost identical reward their employees differently, then one could expect employees to prefer the better-paying company. A wealth of studies have been concerned with the question of whether MNCs are better employers than domestic companies and the empirical evidence seems to suggest that this is the case in CEE. Hence, if a person with an HE degree has to choose between an MNC

and a domestic company, then the dominant strategy is to choose the company that pays higher wages: the MNC (Acemoglu and Angrist 1999, Almeida 2007, Earle and Telegdy 2007, Brown, Earle Telegdy 2010).

The second option is to use survey data on the employment preferences of individuals. The *L*ife in Transition survey carried out by the EBRD comes closest to asking respondents about both their highest level of educational attainment and their preferred hypothetical employer. However, the questions do not distinguish between private domestic and private foreign employers. Hence, this cannnot be used. There is, as far as the author of this article is aware, no other survey data where citizens of these 10 countries have been asked about preferred employment.

Chapter III

Are parties back in?

Contents

"And authorities are seeking to highlight these policy changes. For example, investment agencies have switched from stressing low labour costs to promoting the high quality of the workforce (volume of science graduates, high numbers of PhD researchers and advanced language skills of the population). Meanwhile, nanotechnology colloquiums have replaced manufacturing fairs" (PriceWaterhouseCoopers, 2012).

1 Introduction

The previous two chapters have argued that the evolution of skill formation in CEE should be understood in the context of the emergence of a specific type of capitalism in the region, the dependent market economy (DME). I have argued that HE has a determining structural role in this form of capitalism by playing a critical role in the labour market. In turn, the labour markets for highly educated individuals have been fundamentally influenced by MNCs. The model was developed by focusing on one of the least successful new EU member states, Romania, and some predictions of the model were successively tested on a set of 10 countries in the second chapter of the thesis. These chapters argued that, given the structure and types of activity developed in the region by MNCs, the relatively low quality of instruction and research in HE is complementary to the low requirements of firms active domestically. The demand for sophisticated labour is low both in private and public firms, both domestically- and foreign-owned. However, the large, more productive firms tend to be MNCs as suggested by the empirical material presented in the previous chapters and by recent EBRD reports (2014). Given that MNCs do not need very sophisticated skills, students enroled in university do not have incentives to invest in acquiring difficult-to-get skills. By having these two sets of actors following their interests, the outcome is what I call a low-skills equilibrium where relatively low-value-added activities are carried out by a relatively low-skilled labour force. And still, in this picture of overall low equilibrium, some countries have managed to move up the ladder of economic sophistication while others less so and this chapter aims to *explain the processes* that have determined these outcomes.

This chapter examines the mechanisms determining the upgrading process of some economies from low- to relatively high-skills equilibria. It identifies the factors that have allowed some countries in the region to move up the ladder of economic sophistication while others have remained trapped in a low-skills equilibrium. While doing so, the chapter first *describes* the diverging trends in the

region and then moves on to *explain* the institutional dynamics that have allowed for these changes. It does so in a comparative qualitative framework focusing on Romania and Poland in a most-similar cases design and on Hungary and Estonia in a most-different cases design. Each of these cases is analyzed as a shadow case in the comparison (as suggested by Hancke 2009) and the empirics are presented separately and analyzed comparatively in the conclusion. I focus on the extent to which the role of political parties in government can explain the variation in the capacity of the firms active domestically to upgrade. I emphasize the influence of political parties in government to provide the institutional set-up conducive to upgrading. Therefore, the research question has been framed as follows *To which extent can the role of governments explain the variation in the capacity of these firms to upgrade?* The argument developed is that governments that have successfully provided the environment for firms to move towards higher value-added activities have done so by simultaneously taking three sets of actions. They have (i) successfully bargained with MNCs in order to attract sophisticated activities, (ii) they have incentivized students through scholarships or through secure employment by fostering links with enterprises and (iii) they have steered their higher education (HE) sectors towards the hard sciences.

This chapter plays an important role in the thesis. Two variables were considered to be constant in the previous chapter when focusing on within-country analyses and on the role of MNCs within each country at given points in time. One of the variables whose role was considered to be constant was the nature of the government in power and its short-term orientation. The other variable was time. This chapter focuses on explaining whether the variation of these two variables can have an effect on outcomes. It focuses on the sequencing and on the timing of events (Grzymala-Busse 2010). It aims to analyze whether having one institution in place - MNC or HE - was preceded by the existence of another institution. This chapter enriches the existing framework by providing informative narratives about the links of these institutions and by showing how sequencing can inform our understanding of the processes of interest. The aim is to link the analyses at the micro and macro-level, with richer empirical material at firm-level. It provides a clear explanation of the mechanism with qualitative empirical material.

The rest of the chapter is structured as follows: the second section explains the methodology, the third section provides descriptive macro-level and sector-level indicators of the divergent developments in the region. It explores sectoral differences between countries, both in the higher

education sector and in terms of production of goods and services, and comparing their sectoral value-added by country. The fourth section focuses on four countries, providing more contextual details and analytical narratives with regard to HE and MNCs: Hungary and Poland, and Estonia and Romania. The fifth section concludes.

2 Methodological Approach

2.1 Epistemology

Before proceeding, some epistemological clarifications are due, in order to explain what this research perceives to be the valid processes through which data is observable and how this data can be analysed. The expectation is that the processes through which the relevant institutions – HE, MNCs, political parties – determine one another need not be immediately observable or quantifiable. The *incentives structures* determining the institutional dynamics analysed in this chapter are deeply embedded and most of the time not explicitly expressed. These incentives stem from the actors' calculations and are not observable - indeed, expressing these preferences could make the actors of interest to this research worse off - but they can be inferred.

The implicitness of these preferences and incentives stems from various sources. This can be explained most straightforwardly by means of an example. One would not reasonably expect a politician to argue that the reason why voters need to pay higher taxes for HE is that MNCs are not willing to be taxed more, and that hence voters need to compensate for this by paying higher taxes themselves. Nor would one expect the management of a company active in a foreign country to state clearly that the company has decided to move its operations to that country because the types of activity they perform need not the best-trained people, but the *best skills-pay ratio*, and that they are hence ready to sacrifice quality (lower skills than in their home location) for the sake of lower costs (lower wages than at home). The previous chapters have explained how the interviews showed that MNCs and their marketing and public relations offices, as best represented by their employees in managerial positions, do not reveal their companies' calculations. Hence, these calculations and the preferences derived from them *need to be inferred*, which is a complex endeavour. As in the rest of the thesis, we assume MNCs to be rational. Hence, approximating their calculations comes down to analysing the factors that MNCs consider when making decisions.

One way to better approximate the calculations of firms is to rely in the analysis on data from sources that can reasonably be assumed to be available to these companies. Firstly, publicly available studies carried out by risk consulting or management consulting companies (such as PriceWaterhouseCoopers or Roland Berger) can be assumed to be the minimum information available to foreign companies. Secondly, the capacity of national economies to move up the ladder of economic sophistication lies at the core of the activities of the most influential international organizations and international financial institutions, such as the World Bank (WB) or the International Monetary Fund (IMF), and of analyses by the Organisation fro International Cooperation and Development OECD and reports by the relevant Directorates-General (DGs) of the EU Commission. This chapter draws on publicly available studies from these two sets of sources. My contribution also relies on scholarly literature in economics, economic sociology and education studies, as well as on media reports. This chapter also draws on some of the insights gained through interviews in Romania.

Although some of the relationships of interest may not be immediately observable, these relationships may also be explicit. Such instances are illustrated in this chapter through case studies. This type of exercise provides the opportunity to showcase some analytic narratives linking the evolution of HE to MNCs, in order to show that their co-evolution is also causally linked. These cases focus on instances where universities have developed strong ties with certain companies active in the region. The role of these cases has been inspired by Keohane 2009: 39, in a paper in which he explains that *"My commitment to qualitative analysis as an intrinsic part of good social science does not reject sophisticated quantitative analysis in the least, but does reflect a view that causal mechanisms are best elucidated with case studies and narratives, conducted in an analytically rigorous way"*.

This chapter provides a comparative historical analysis of recent events by using analytic narratives, aiming to complement the evidence about co-variation with narratives about causality. Its approach to causality has been inspired by Keohane (2009: 39):*"my sympathies are much closer to scientific realism, [...] 'causal realism', than to strict positivism. [...] causation is important, but also [...] causal mechanisms exist independently of directly measurable relationships between variables*". This is in accordance with the principles set out by King, Keohane and Verba in *Designing Social Inquiry* (1994: 85), where they note that any coherent account of causality needs to specify how the effects are exerted".

Another important aspect that is taken into account in the analysis is explained very well by Pierson (2004) in his critique of functionalist agent-centered theoretical approaches. He argues that *intentions* of different institutions and their actual *effects* cannot be considered to be synonymous. This is partly due to the fact that there is always a time-lag between these decisions and the moment when their effects become visible. Moreover, actors cannot always predict the effects of their actions. They cannot fully predict outcomes. The analyses in this chapter are sensitive to this type of argumentation.

2.2 Key Mechanisms at Play

Explaining how some countries have managed to move up the ladder of economic sophistication promises to provide new insights in two distinct directions. On the one hand, this is a straightforwardly relevant public policy issue: achieving economic growth is unquestionably a concern for policy-makers around the world. On the other hand, and highly relevant for political economy scholarship, understanding the processes through which some economies have upgraded while others have not provides an opportunity to explain *institutional change*. Moreover, doing this in a set of similar countries allows for a controlled comparison. Thus, the approach moves away from explaining equilibria and a static model – a DME in a low-skills equilibrium – to explaining how institutions can be redefined and redetermined and how processes of change can unfold, as detailed in the next section.

The starting point of this chapter is the low-skills equilibrium in Romania, which does not seem particularly surprising once this has been identified and explained in the first chapter of the thesis. But how have some of the countries that inherited a relatively similar political-economic system managed to escape this low-skills equilibrium? How have some of these countries, particularly Estonia and Hungary, been able to take a different role in the global production chain? *What has been the different role of governments in these economies? How have some governments supported firms in their economies to move from low- to high-skills equilibria while others have not done so?* The chapter analyzes how governments have provided the infrastructure allowing firms within each of these economies to move from low- to higher-skills equilibria. While many factors have been important in allowing countries to move from low- to higher-skills equilibria, the chapter highlights the marginal role of governments in providing the infrastructure conducive to economic upgrading.

Economic upgrading is a tremendously complex process in which various factors influence outcomes. This chapter points to government policies that have had the most powerful impact on the capacity of these countries to move from low- to high-skills equilibria. While many aspects of the institutional background neccessary for upgrading are important and these are highlighted in the analysis, I focus in particular on the role of political parties in government. I highlight their critical role and how they can at least partially explain policy divergence. Bluntly, this chapter explains how political parties can mediate the relationship between HE institutions and that of MNCs and why this relationship is not spurious. While showing that the relationship of HE institutions to MNCs is not a mere correlation, we move on to explore *how some government reforms are able to support higher education (HE) enrolment conducive to higher value-added activities in some countries of Central and Eastern Europe (CEE) but not in others.*

The chapter shows that governments can play different roles and that this will lead to different outcomes in a relatively similar set of countries. The comparison relies on Mill's method of difference and of agreement which is presented intuitively in Hancke (2009). I analyze developments in Romania and in Poland relying on the method of difference. Here, many of the phenomena of interest are similar except for those leading to the outcome of interest: an active role of the government in Poland and the lack thereof in Romania. In the comparison focusing on Estonia and Hungary, relying on the method of agreement, I argue that while all potentially intervening policies of interest differ and that the necessary condition present in both cases, has been the active role of governments and this has led to a more comprehensive reform in HE. Undoubtedly, these comparisons are imperfect, as these are complex political economies where institutions differ even in contexts of obvious similarities and where similarities can emerge even in contexts of evident differences. An observational study such as this one is able to only partially control for the intervening variables as is discussed below. Despite these inherent weaknesses, this exercise provides a good understanding of the relevant causal chains between the variables that have been identified to be relevant. This is an inductive exercise that is further developed in a deductive approach in the next chapter of the thesis.

Estonia and Hungary are analysed in a most different cases framework, showing how despite inherent differences between these countries, political parties in government have been able to provide the institutional framework that would allow firms to upgrade economically. Initial conditions

have been largely dissimilar, but political agency is singled out as the one factor that has been most similar in Estonia and Hungary. The active role of the government has been crucial and it has allowed both Estonia and Hungary to upgrade. In the second comparison, Romania and Poland show many similarities, except for the role played by political parties especially at the beginning of the transition in the economic coordination processes in these countries. Outcomes have differed due to the different role played by political parties in government.

The analyses focus on the period 1989 - 2012. The universe of cases from which the selection is made is represented by the ten new EU member states which joined in 2004 and in 2007. While trying to understand the conditions under which some of these countries have managed to upgrade while others have not, this chapter analyses *the channels* through which HE, MNCs and governments have determined each other. This is linked to other reforms carried out by the government, especially the capacity of bargaining with MNCs and to offer an institutional environment conducive to upgrading.

It is argued here that changes towards more sophisticated activities developed, if slowly, in the private sector but they have needed the sustained support of government. Governments that have steered their economies towards delivering sophisticated goods and services, on domestic as well as on world markets, have been successful in *bargaining* with MNCs to attract sophisticated activities (they offered skills and financial incentives: skill/wage premia supplemented by subsidies and low rates of taxation). At the same time, some governments (notably in Poland) have offered financial incentives, such as scholarships, to students studying hard sciences; others (notably in Hungary) have offered secure employment through direct partnerships with domestically active MNCs. This has involved, in the more successful countries, a reform of the HE sector in favour of the hard sciences and of more intensive public spending on HE.

This chapter shows that the space for maneuvre of the government has been exploited differently in the four countries under consideration. The chapter highlights the role of political parties in the design of higher education governance and implicitly in providing the framework conducive to upgrading in these economies. The chapter does not try to explain why the role of these governments has been distinct, but it underlines that this difference has emerged. The next chapter will provide more details as to why governments have acted differently and whether the distinct levels of sophistication of the economy and the political orientation of the governments in power

can be considered useful explanations for the reasons why government policies have diverged.

The starting point of this research is the acknowledgement that the changes taking place in CEE cannot all be drawn back to the general liberalization of these markets combined with the inherited communist legacy. The variation in the sophistication level of economic activities reached by 2012 cannot be fully explained by the liberalization processes - largely similar - nor by the different starting points in the transition - as the trends have diverged quite remarkably. This chapter argues that the governments in power have played a key role in determining the different trajectories while acknowledging that other factors have been relevant as well. This only happens when a set of conditions are met, as this chapter argues. This is a surprising finding that deserves to be explained.

This chapter presents some micro-level qualitative analyses at the level of firms and this shows that an intense cooperation of governments and of firms for providing the needed human capital has been important in allowing for upgrading. MNCs have made the decision to move sophisticated activities to the region only once the production activities could be sustained by a well-trained labour force. What the case studies suggest is that it has been the government making the *first move*, deciding to provide the human capital that MNCs could rely on in moving sophisticated activities to the country. From the point of view of the need of human capital the decision to move production lines requiring high skills is similar to the decision to relocate at all. Both these decisions were made in the cases considered once governments provided the necessary human capital.

Political parties have played a crucial role throughout transition but their role has been particularly relevant at the beginning of the postcommunist period. It is at the beginning of the 1990s that MNCs started to enter these economies and that the broad trajectories have been established. Hungary had opened up its borders already before 1990. Differences between Romania and Poland have begun during these early years despite similar starting points at the beginning of transition. As further demonstrated below, *the sequence of events* is an important explanatory factor in identifying causal stories (Pierson 2004; Grzymala-Busse 2011). However, this sequence of events has been strategically modified by some governments and outcomes have differed slightly as a result. All in all, probably the most interesting insight of this chapter is that it shows that the previous chapter has discounted the role of political parties in government and that this leaves much variation unexplained. All in all, the chapter highlights that the reliance on foreign capital leaves ample

space for maneuver by parties in government.

3 Relevant Literature

3.1 Institutional Change

Political economists have duly been interested to explain "how institutions evolve", with the prominent example of Thelen (1999) in Germany and to explain institutional change in general, focusing on explaining how large firms managed to reinvent themselves, as analyzed by Hancke (2002) in France. In these established political economies in which systems seemed to be reinforcing the existing equilibria uninterruptedly required an explanation. In those contexts it was surprising to observe change in seemingly stable political-economic systems. This required an explanation of the processes through which these institutions - firms and educational institutions - and their interaction were able to redefine their interactions and to produce to gradual change.

In a very different context, in CEE, explaining institutional change in an environment in which institutions have been redesigned with unprecedented force and scope seems almost superfluous. Naturally, institutional change marked the switch from a centrally planned to a market economy. The processes through which change has taken place in CEE have been more disruptive and seemingly total than in the regions in which institutionalist scholarship was usually developed. Explaining change in a context in which almost all institutions changed simultaneously is therefore a difficult task. Nevertheless, the outcomes of these transition processes have differed and these different trajectories have received many fundamental and valuable explanations. This chapter tries to understand whether the political parties in the region can be considered to have influenced these changes as well. Indeed, distinct historical legacies have played out differently and it is not surprising that the outcomes differ greatly today in CEE. McDermott (2005) provides a fine explanation of how the networks between firms continued to exist after the fall of communism and how these have co-determined change.

Reinterpreting the material presented in the previous chapter, an approach that would allow for gradual change could be one in which institutions change if firms change. However, the "footlose" MNCs as those present in CEE are less likely to change within these countries. In CEE, MNCs are more likely to change location than to reinvent themselves. Therefore, the change is expected

to be stemming from the human capital part. Therefore, the marginal effect of HE can in turn determine the nature of MNCs to change. So, building on the literature on institutional change, the argument brought forward here is that MNCs are likely to develop more sophisticated activities if this is determined by the nature of the human capital that exists there. The marginal contribution of human capital is expected to be determinant for change.

Firms do play an important role in economic adjustment in France, for instance. In that different context Hancke (2002: 189) argues that large firms are drivers of institutional change. This chapter shows what happens in countries where large firms are MNCs that do not have strong ties to the domestic economy. Large firms in France are different to large firms in Romania. And this is fundamentally different. This means change has to be brought about by the government rather than firms themselves. The argument advanced here is that governments need to play a role in improving human capital because otherwise firms are less likely to invest.

Relying on historical institutionalist jargon, the fall of the communist regimes in the region can be termed a "critical juncture" (Pierson 2004). A multitude of paths became available and political parties started to play a key role in redesigning institutions in these countries. Almost ironically, political parties in government continued to play a similarly crucial role as they did during the planned economy. The major difference was now determined by how parties decided to use this role. Nonetheless, this has remained unexplored in the literature focusing on economic policy-making in the region. Against the generally accepted perception of a laissez-faire ideology and a general liberalization of these markets, the role of political parties in government has not been considered essential for public policy. This role was not considered important enough to move policies on a different path. The structure of the economy was shown to be essential for outcomes (for e.g. Bohle and Greskovits 2012, Feldmann 2007) and the influence of international organizations as well (Bruszt and McDermott 2012, Pop-Eleches 2009).

3.2 Skill Formation

This chapter switches the focus and argues that the role of political parties can partially explain outcomes as well. This chapter argues that what mediates these differences in a consequential manner is the role played by the governments in these countries. The novelty of the approach of this chapter is its focus on the role of the state -*the postcommunist state* in fostering institutional

change. This is a new perspective in these set of countries where the role of the state has been fundamentally questioned. It is almost ironical that this conceptual reshifting takes place but this is necessary. This chapter links this to the role political parties have played at the beginning of transition but also once these political economies have become consolidated.

Given the rather limited engagement with skill formation in new democracies and market economies - both at the level of vocational training and higher education - this chapter examines relevant debates and their potential to inform the discussion on the countries of interest to this book beyond the boundaries of this geographic region. Firstly, this chapter engages with comparative work in the political economy of education (Ansell 2010, Busemeyer 2007, 2008, Busemeyer and Trampusch 2011). Relevant insights are gained from this literature: identifying the political actors likely to influence education outcomes; critically analyzing the importance of political coalitions. Secondly, scholarly work in economic sociology in the region (Stark and Bruszt 1998, Bohle and Greskovits 2012) and beyond also informs this chapter. Thirdly, this chapter the role of the state in a political economy (Schmidt 1999). And fourthly, this chapter also considers literature in economic upgrading, while engaging with it critically. Further details are included below:

Political scientists and scholars of development have devoted considerable attention to explaining the effect of political parties in government on the evolution of public policies or on the nature of the welfare state (e.g. Hausermann et. all 2013). Nevertheless, the understanding of the link of political parties to economic governance in the context of new democracies is still very limited. This chapter shows how parties influence HE and, at the same time, economic governance. It thus sheds new light on highly debated public policies.

3.3 Upgrading and Value Chains

The chapter draws on a growing body of work on global value chains (GVC) and upgrading (Gereffi, 2014). In contrast to early industrializers such as the old OECD countries, that built entire supply chains at home, global value chains emerged as a consequence of the globalized production chains. The countries of Central and Eastern Europe have adopted an export-oriented model of development and became part of existing global value chains. CEE have joined already existing supply chains, which is simultaneously an advantage and a disadvantage. On the one hand, it facilitates the rapid adoption of specialized tasks for companies based in countries that do not have the know-how and

the technology to start performing specialized tasks themselves. These countries can join supply chains rather than build them from the bottom up. Nevertheless, it is equally important which part of the supply chain can be entered by the firms in CEE (Gereffi, 2014: 18). Even if firms in these countries are active in IT, for example, their roles in the global supply chain can be very different.

Economic upgrading is closely linked to the global value chains literature. Gereffi (2005: 171) defines *economic upgrading* as the process by which economic actors firms and workers move from low-value to relatively high-value added activities in GVCs. He identifies four types of upgrading and the chapter relies on them in order to increase precision and to offer clearer benchmarks in the qualitative analysis. In this framework, four types of upgrading have been identified (Gereffi, 2014: 19): *product*, *process*, *functional* and *chain* upgrading. Their definitions are rather intuitive: product upgrading implies moving into more sophisticated product lines, process upgrading implies a more efficient input-output relation and superior technology. Functional upgrading means acquiring functions to increase the overall skill content of the activities. Chain upgrading implies moving to new, but oftentimes related industries.

There are challenges that need to be faced in the analysis of global value chains. This stems from the fact that diverse enterprises are involved in a value chain - both in terms of size and geography. Gereffi (2014) proposes that lead firms rather than local suppliers should be analyzed. He suggests analyzing the strongest link in the chain, rather than the weakest. This is taken into account in this chapter, which analyzes mainly MNCs in the region, the strongest producers in these chains.

4 Increasing the Level of Sophistication

It is remarkable how some countries in the region have managed to achieve higher levels of GDP per capita and higher R&D expenditure in the private sector, as well as specialization in different technologies, goods and services which contribute to their national GDP, while others have not. This is surprising given that the previous chapters have shown how well embedded the institutions of skill formation are, with the other institutions representing demand for skills in the economy, and how difficult it is to escape a low-skills equilibrium. This section first provides some descriptive evidence regarding the evolution of FDI and the sophistication level of activities developed domestically as

well as some slightly more systematic analyses of these indicators.

The DME model is used as a starting point for the analysis because it provides a straight-forward description of the processes of interest in these countries. There are advantages of comparing the countries within a VoC type. This provides conceptual clarity for the purpose of the comparison. The main such advantage is that we consider them to be homogeneous entities when conducting the comparison. The starting point of this chapter is the DME model (Noelke and Vliegenthardt 2009) which is redefined and sharpened for the purposes of this chapter. Apart from being an accurate type within the voc typology, the DME model captures vital common characteristics of these political economies: their heavy reliance on MNCs. The chapter focuses extensively on the car manufacturing industry, while also providing some more nuanced empirical material on the IT sector in Estonia. The industries are representative because they allow a clear understanding of processes of upgrading in industries that are expected to be conducive to economic growth. However, while being dependent on these MNCs, there is some variation in the effect these MNCs have on these domestic economies.

Having showed the different intensities of industrial production from a comparative perspective, the question that arises concerns not only which industries are most intensive in these countries, but, equally importantly, the value added that they bring to the global economy. This better explains how they are integrated into the global economy and thus allows for more precise comparisons and descriptions.

As a consequence of the internationalization of production chains, exports of final products increasingly depend on the importing of intermediate inputs. This shift is referred to in the literature as the "trade in value added" or 'trade in capabilities", as opposed to "trade in goods" (Gereffi 2014; OECD 2011). Hence, a convincing portrayal of dependent development has to take into account the role of domestic firms in the global value chain.

This section uses concepts and indicators from fields adjacent to the political science discipline and these need to be clarified. The concepts of *economic upgrading* and *value chain* are salient topics in economics and business literature concerned with the behaviour of firms in an international business environment.[1] These concepts are also used in policy-making and in reports from the

[1]Interestingly, one can observe a geographic pattern in the distribution of business scholars focusing on Latin America and to some extent on Asia and Africa (but not on Eastern Europe) at Duke Business School *Duke University Center on Globalization, Governance & Competitiveness*. Unsurprisingly, scholars associated with the University of Vienna focus on Central and Eastern Europe.

European Central Bank, European Commission, UNCTAD, WB and IMF. A summary of the literature relevant to this thesis from the immense literature on value chains is included in the appendix.

Worldwide, the concept of *upgrading* is used recurrently in relation to developing countries and refers to the process through which countries come to play a more important role in the global production cycle.[2] Table 1 shows that integration into the global economy is relatively more important for the GDP of the Czech Republic than for that of Japan, the US or even China.

[2]Discussions of upgrading in Costa Rica (Sanchez Ancocha 2009)

Country/ Indicator	(1) Value added from trade partners embodied in country total exports	(2) Value added from country embodied in trade partners total exports	(3) Degree of participation in global value chains	(4) Importance of participation in global value chains for the national economy
CEE				
Bulgaria	32.1	15.7	47.8	22.7
Czech Republic	39.4	23.0	62.4	**36.8**
Hungary	39.9	16.7	56.6	**43.9**
Latvia	25.2	24.3	49.5	21.7
Lithuania	36.1	14.1	50.2	27.2
Poland	27.9	20.5	48.3	19.1
Romania	24.2	21.9	46.1	14.1
Euro Area				
Austria	31.6	24.2	55.8	28.0
Germany	26.6	22.8	49.5	21.0
France	24.8	21.1	45.9	10.7
Italy	20.1	21.7	41.8	9.9
Other countries				
China	32.6	13.4	46.1	12.3
Japan	14.8	33.0	47.7	6.1
United States	11.3	28.5	39.8	4.5

Table 1: Degree of Participation in Global Value Chains
Data from 2009, *Percentage Points*

(1) in % of country total exports $[100 * FV/EXP]$
(2) in % of country total exports $[100 * IV/EXP]$
(3) in % of country total exports $[100 * (FV + IV)/EXP]$
(4) in % of country $GDP[100 * (FV + IV)/GDP]$
Notes: FV denotes foreign value added, IV stands for intermediate domestic value added, and EXP denotes total exports. *Source*: European Central Bank, December 2013, Role of Global Value Chains in Synchronization of CEE and EA Business Cycles, EU Countries Division.

5 Qualitative Comparative Analysis

This section relies on the indicator of *% of GDP spent by private firms on R&D-related activities* to capture the level of sophistication of economic activities performed by private firms domestically. This level varied among the countries of interest at the beginning of the transition. But, most importantly, it has diverged further over time across countries. Bulgaria, Latvia, Lithuania, Romania and Slovakia have spent less than 0.5% of their GDP on R&D activities during this time. Hungary, Estonia and Slovenia have registered higher rates of sophistication. Figure 2 shows these differences and also provides strong empirical evidence of the Romanian low-skills equilibrium in a comparative perspective. Graph 2 and Graph 1 suggest that the two sets of countries compared have had surprisingly different trajectories and the aim of this chapter is to explain the emergence of similar outcomes in Estonia and Hungary and of the divergence between Poland and Romania.

The chapter compares and contrasts four cases and explains the emergence of two outcomes: an increase in sophistication and the lack thereof. Achieving variation on the explanatory variable was therefore one important reason for the choice of cases. Next to the differences in outcomes the chapter also explores the difference in the explanatory variable. The explanatory variable is the role of government: which can be active or not active. This is a new approach in the study of political economy in the region, where governments have been traditionally considered to be playing a marginal role. This has been the perfection in public discourse as well. The Economist, for instance, argued in 2005 that "Politics may be murky, but rarely worrisome" and concluding that "Now eastern Europe is beginning to look different: much more like China than Africa, closer geographically and culturally than either, and easier to do business in" (The Economist 2005).

Analyzed chronologically, the role of parties in government has been essential at the beginning of the transition period when institutions were extremely maleable and when the first equilibria emerged. So, this chapter focuses on how the parties in government have contributed to these institutional changes.

5.1 Four Countries and *One* MNC ?

A few points need to be addressed regarding the nature of MNCs that are active in these economies. It might seem controversial to treat them as homogenous entities given the many ways in which MNCs differ from one another. A few points are addressed here. One of the most controversial

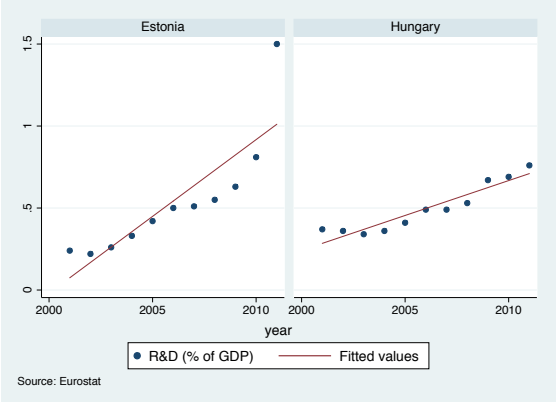


Figure 1: Research and Development Spending by Private Firms. *Source*: Eurostat Statistics

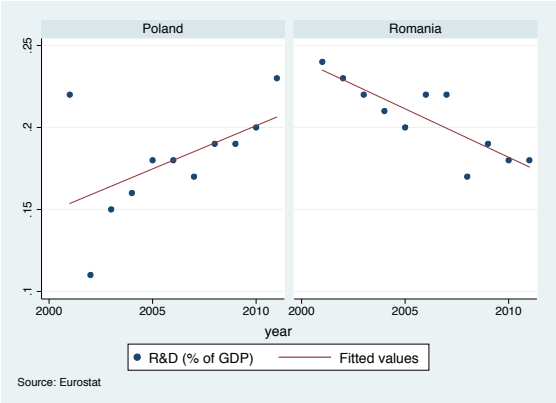


Figure 2: Research and Development Spending by Private Firms. *Source*: Eurostat Statistics.

issues regards the reasons why MNCs decide to move to one country and whether the decision to relocate to a country is fundamentally different from a decision to stay in that country.[3] I argue that these two decisions are essentially identical. Companies consider the same criteria when making the decision to stay or to leave. It is possible that the relocation costs will be larger at the beginning, but other than that, the decision and its cause and effect for HE institutions will be identical.

At the same time, the reasons why MNCs choose one country over the other are certainly

[3]This point and the next one discussed were raised by Dorothee Bohle at a seminar presentation at the CEU in Budapest in April 2014. I am thankful for the suggestions.

diverse, we can distinguish between two types of investments, two types of MNCs - inward and outward-oriented. I think that the distinction between inward-oriented and export-oriented MNCs is not perfectly dichotomous and perhaps not the most useful for the purposes of this thesis. To be more precise, a question that is often asked regarding the role of MNCs is the following: Does a MNCs move into a new market to benefit from the large market size, with the main purpose to distribute goods or services? Or does the MNC move to a new country to benefit largely from the human capital and/or the raw material and to then export those goods or services? This is indeed an important distinction and a rather politicised one as well. Resorting to a populistic rhetoric, Orban criticizes foreign companies exploiting the domestic market.*Hungary needs foreign investment so we must differentiate between allies and colonists," [...] "Those who need only our markets are colonists. Those who need our work, our knowledge, are allies whom we deal with happily"* (Reuters 2012). Orban uses this distinction in his attempt to blame MNCs for unwanted developments in Hungary.

5.2 Upgrading and Automotive in Hungary

This case illustrates the process through which the Hungarian government has had an active role in upgrading products and in building the educational infrastructure that will allow MNCs to upgrade. The process involves two crucial measures that had to be undertaken more or less simultaneously. (1) The government provided the needed infrastructure to smooth the upgrading, by ensuring the supply of much-needed local skilled labour. It was indeed the case that Audi required HE graduates in engineering, and the government eased that process. (2) The government provided Volkswagen with financial incentives (direct subsidies and low taxation), initially for the relocation of the company and subsequently, and most importantly, for the company to elevate the level of sophistication of the activities it carries out in Hungary. Product as well as process upgrading have been introduced to Hungarian manufacturing through these combined measures. Moreover, other similar measures have been introduced to accommodate other companies willing to invest in Hungary.

Probably the most important aspect that emerges from this closer analysis of the measures undertaken by the Hungarian socialist governments of Medyessey, Gyuresany and Bajnai between 2002 and 2010 is the fact that it was the government that was the first to act in providing the needed

infrastructure for these businesses. Therefore, the sequencing of these events makes me confident to argue that the role of the government had a causal effect on the subsequent development of HE and, in turn, for the upgrading of production. While the cases provided do not claim to be statistically representative, they are illustrative of the processes that link governments, to HE and to MNCs, and eventually to upgrading.

The automotive sector has become Hungary's comparative global strength, as also emphasized by PWC studies (2014).[4] Automotive production is export-oriented with passenger cars representing just over 95% of cars produced in Hungary in 2012 (Economist Intelligence Unit 2013). Automotive is therefore on integral part of the global production chain, generating around 20% of total exports (Hungarian Investment Agency 2014). Therefore, if we distinguish between MNCs that aim to exploit the domestic market or to export, this sector is of the latter nature.

Moreover, successive Hungarian governments have actively pursued a policy of attracting FDI to this sector. Strategies for this have included state aid and subsequently lower corporate taxes, once Hungary had joined the EU, since EU regulations would not allow governments to interfere in the functioning of the market directly. As a consequence, by the mid 2000s the value of state aid had fallen to around 10% of the value of investment (compared with around 20% previously), but corporate taxes had fallen to almost half the value they had 10 years earlier, from more than 30% to less than 20%, as explained in detail by Scepanovic (2013: 86). Therefore, the Hungarian governments have uninterruptedly supported the automotive sector in the country.

This is exactly what happened with Audi also. In 1993 the Hungarian government headed by the prime-minister Antall was successful in attracting investment from Audi, a company of the Volkswagen group, to Gyor in western Hungary. By 2014 Audi had invested a total of 5.7 billion euros since it moved to Gyor.[5] These investments were, however, subsidized in different ways by the Hungarian government (state aid or lower taxation). A policy of maintaining Audi's interest in Hungary was further pursued by the Hungarian government through steps towards developing a high-skilled base of graduates tailored to meet the requirements of this MNC. And this is the most important step for the purpose of the argument in this chapter. As early as 2007, the Audi Hungary Vehicle Engineering Department Group was launched as a part of the Department of

[4]The automotive sector is the part of the industrial sector that increased most between 1996 and 2010, as shown in the previous section.

[5]This case study relies on information gathered from Tury (2014) and Scepanovic (2013), as well as on publicly available data on the company.

Applied Mechanics at the *Szchenyi Istvn University of Gyor*.[6] The faculty is expected to train future employees for the producer in Gyor. The government's role in this process is further emphasized, particularly since Audi does not seem to have provided financial support to the university. Going back to the argument in the second chapter of this thesis, showing the decision tree, this is not entirely surprising given that Audi (Volkswagen) has a better position than the Hungarian government in the bargaining process. With the MNC well established in the Hungarian economy and with substantial prerequisites for both functional and production upgrade now in place, the government made one last move. In 2008 it provided Audi with state aid amounting to almost 50 million euros for the upgrade of a production line. The government justified this incentive package by reference to the beneficial relationship that would be developed with the University of Gyor (Scepanovic 2014 and Tury 2014 provide good descriptive evidence).

Furthermore, trying to contextualize Hungarian HE in a comparative historical context shows that the reform of HE had already begun before the 1980s.[7] At the same time, university-industry cooperation had already started at the end of the 1960s.[8] Higher education enrolment has increased most in the public sector. But, most significantly, secondary vocational schools continue to be important and more students are enrolled in vocational schools than in other secondary schools. Hungary has a dual HE system, composed of colleges and universities. As Hancke (2014) also emphasizes, this distinguishes it from Poland, Romania and Estonia, where vocational training has almost disappeared.

In 2014, Volkswagen manufactures in Gyor what PWC would call *advanced automotive* for Audi. In this branch Audi now produces engines, assembles vehicles and carries out some technical development closely linked to the production cycle. Engineers are expected to understand advanced processes and to be able to supervise automated production.[9] The branch in Hungary therefore requires some fairly skilled HE graduates: *"Complete engine development exists only in*

[6]The university offers higher apprenticeships, similar to the German system, as well as bachelors degrees, masters degrees and PhD-level training (university website). Unsurprisingly, the departments website is fully available in German and Hungarian, although not in English.

[7]"Bilateral intergovernmental agreements, the support of the Soros Foundation, as well as the incentive of and the financial background ensured by university courses taught in different foreign languages gave impetus to the internationalization of Hungarian universities in the 1980s, well before the political changes"(Lajos 1993: 404).

[8]"Short-cycle professional higher education has long traditions in Hungary (schools of engineering, agricultural academies) (Lajos 1993: 404).

[9]Similar production processes seemed to be taking place in the company when interviews were conducted in Romania, at Continental. There, some technical production development was carried out in the factory, but engineers were expected to understand only basic processes.

Germany and in Hungary only partial tasks are being carried out" (Tury 2014). While the main part of development is still being done at Ingolstadt, Neckarsulm and Worlfsburg in Germany, the level of technological cooperation between branches ensures that there is substantial scope for the Hungarian automotive industry to contribute to the upgrading of the national economy. According to data retrieved from Amadeus (2014), the operating revenue of Audi in Gyor was 6 bln EUR and 10.000 employees were working for the company in 2013.[10]

A closer analysis of the investment promotion efforts of Hungary shows that the Hungarian government has commissioned consultancies, PWC, to work on their investment attraction efforts and these have branches in Budapest and Gyor. The investment agency advertises the education level of its employees as the biggest asset of the Hungarian economy. *"The Hungarian automotive sector's cooperation with the local education system is strong and focuses on R&D. Numerous multinationals have set up R&D centers in Hungary, including Audi, Bosch, Knorr-Bremse, Thyssen-Krupp, Arvin Meritor, Denso, Continental, Visteon..."* Furthermore, another sector in which R&D activities have been carried out in the same region and that is closely connected to the automotive industry, is the electronics sector. 23% of the exports in Hungary stemmed from this sector in 2014. Jabil and National Instruments also conduct R&D activities. This is followed by pharmaceuticals, ICT and food industry. Thus, Gyor is part of the *Prague-Bratislava-Gyor triangle*, which is the home of car-manufacturing and components industry in the region (EIU 2012, Amadeus). Surely, the proximity between these companies is reinforcing their ability to upgrade, as does the presence of the university that provides the required human capital. Understanding the existence of these networks also provides a clear empirical example to explain the statistical analyses from the previous chapter, in which the size of the city and the capacity to innovate of the companies based there were correlated.

Furthermore, automotives are produced in other parts of the country as well. Daimler Mercedes started manufacturing cars in Kecskemet in 2012. The decision to build the factory was made in June 2008 while Ferenc Gyurcsany (from the Hungarian Socialist Party - MSZP) was in power. Daimler is expected to respond to state efforts for development of vocational training in the Kecskemet region according to the existing cooperation agreement with the government. This is the largest investment in the last three years in Hungary. They produce B class and A class

[10]Entry in Amadeus 2014: "AUDI HUNGARIA MOTOR KORLTOLT FELELSSG TRSASG"

Mercedes cars in Kecskemet where more than 3400 people are employed (Bloomberg 2014). I would also like to point out that other factors also play a role for the decisions of MNCs to relocate to other countries. In terms of labour costs, Hungarian workers are paid around one fifth compared to the workers in Germany.[11] This investment in Kecsemet is a telling example of what Pierson (2004) refers to as the time lag between decisions being made and their effects on institutions, as Orban is still benefitting from the decisions that were made while another government was in power.

At the same time, it highlights Orban's ambivalent relationship to investors. The prime minister Viktor Orban argues to be supportive of large manufacturing investments but he has declared repeatedly his lack of trust in foreign investors in Hungary by even acting on this by introducing a set of new taxes on these businesses (Reuters, March 16, 2012).[12] This different attitude to investors of the Orban government also shows that changes in the path towards moving up the value chain taken by the government does not need to move into one direction once the country is on a upward trend. Hungary is a large country with an inherited industrial sector and that is known for the more coordinated relationship between employers. Therefore, the role of the government should not be particularly suprising. The next case study shows similarly positive developments in the case of Estonia, which is dissimilar in many ways to Hungary, except for the active role played by the government in economic upgrading.

5.3 Upgrading in Estonia?

A closer look at the Estonian market economy leads to a similar conclusion: the role of the government in the pursuit of upgrading is crucial. In this case study we focus on the entire economy because the interest lies in explaining how chain and functional upgrading processes take place, i.e. the processes through which firms within countries move towards *higher value added industries* requiring a higher skill content. The role of the government in facilitating this upgrading process is the more surprising, given the country's long-known inclination towards neoliberal policies (as emphasized by Feldmann 2007). By 2014, Estonia had become the home of Skype, of health record digitalization and of internet voting. With 80% internet access coverage to support the govern-

[11] "Hungarys allure is an educated labor force that last year cost 8.61 an hour compared with 45.66 in Germany, according to German auto industry group 'http://www.businessweek.com/articles/2012-04-05/daimlers-billion-dollar-bet-on-hungary

[12] "Companies hit by the taxes include Hungarian units of Deutsche Telekom and E.On, and the main local lobby group for German firms say they feel separating investors into good and bad groups is counterproductive."

ment's technological inclination, the country ranks highest in the region in terms of technological progress. Indeed, Estonia has long been a devotee of the neoliberal paradigm. Bohle and Greskovits (2012: 96) recount the role of the state in liberalizing its industries. Most importantly, Estonian governments have openly advertized the economic freedom of their country with a 0% corporate income tax on all reinvested earnings. It privatized quickly and has opened up to foreign capital while registering significant economic growth.

The most compelling argument that can be made about the Estonian case is that successive Estonian governments have played an important role in upgrading, which is unexpected for the most liberal country of the former communist bloc. Between 2004 and 2014 a centre-right party, the Estonian Reform Party (Eesti Reformierakond), has been in power. The party supports 0% corporate tax and a flat income tax rate. The party tends to be supported predominantly by young, well-educated, and urban voters. Despite these liberal economic policies, the government has played a particularly strong role in the upgrading process. At the beginning of the transition, Martin Laar, the first post-communist prime-minister in power, who also served as prime-minister between 1999 and 2002, was very active in promoting Estonia internationally. Estonian governments project the country externally as a Nordic, rather than a Baltic, country. Unsurprisingly, the country is the preferred destination for Finnish and Swedish investors. It started from being an underdeveloped satellite, having had a peripheral role in the USSR. The largest company in Estonia is Ericsson Eesti AS, a company that is 100% Swedish and produces communication equipment. The company has grown gradually and continuously from 2004 and had an operating revenue of 1.2 million euro in 2014 (Amadeus 2014). Similar to the structure of MNCs, foreign trade is also mainly focused on the region, Finland, Sweden, Russia, Latvia, Lithuania and Germany.

However, Estonia had priviledged initial conditions: more economic experimentation and more light industry than other countries in the region. So, it was quite clear that early economic reformers could build on this. In 1999 the Estonian president encouraged Estonian entrepreneurs and scientists in research universities to build a second Nokia, emulating their Finnish neighbours and role models (Tomusk 2003). Tomusk describes Estonian HE as composed of a small elitist component and a larger social sciences and humanities component that provides a less elitist, rather mass education. Successive governments have had an unconcealed political will to foster the development of a technologically advanced society. Estonia is thereby trying to preserve its tradition in the hard

sciences, which was in stark contrast to developments in Romania and Poland until 2005. There are six public and one private university in Estonia. Five of those are in Tallinn and two in Tartu. The oldest and biggest university in Estonia is the University of Tartu with circa 17,200 students followed by Tallinn University of Technology with circa 13,900 students. According to the World Economic Forums 2012-2013 Global Competitiveness Index, Estonia was ranked 19th in the world and the highest in CEE for the quality of its math and science education. About one third of Estonians have higher education and 66% of adults speak at least one foreign language, English for the young and Russian for the older pipulation (Estonian Foreign Investment Agency).[13]

True, it is much easier to modernize a country of 1.3 million people than to modernize countries with a traditional heavy industry base and large populations of non-productive peasant farmers, as emphasized by the Economist (2013) praising Estonia's succes in IT. In a response this article, a contribution in Forbes (2013) pointed out that, while these success stories are appealing, interpretations should be tempered: "Estonia's main problem at the moment is not to make it 'easier for start-ups to attract foreign talent' but to find a way to prevent its own citizens from abandoning the country in ever-greater numbers". This is not surprising in the context of the developments described in the region where the outmigration of highly skilled individuals is a problem. This also shows, of course, that the reforms needed have to be complex and responsive to a series of incentives that are difficult to be influenced by the government, such as the incentives of better jobs abroad especially for highly educated individuals. And this is the case for the entire region.

At the same time, I would like to point out that the Estonian IT bubble is not uncontested but strongly supported by the government.*Remember the .com bubble? The .ee bubble is next.*[14] is the title of a blog-post in which some Estonians in the industry criticized the support of the state for both foreign and domestic IT companies. Nonetheless, it is suprising that the government in Estonia has had such a powerful role in economic policy. The government has also reformed the legal system in order to support entrepreneurship. Moreover, foreign investors are treated equally as locals when intending to establish companies. But the most interesting aspect of this liberalization in Estonia is the investments the government has made in supporting entrepreneurs. It has spent a significant proportion of the state budget supporting entrepreneurs.

[13]We found that the match between the skills, and also the culture fit, was very great. And on top of that, the passion for IT in Estonia convinced us that this is really the place we have to go, Chief Information Officer Martin Kolbe explained in an interview on Estonian Television. (Estonian Investment Agency)

[14]http://doteebubble.blogspot.ch/

The evident concern of the Estonian government to improve its competitiveness and to attract investment is visible at the level of the government agency meant to promote foreign investment as well. The government agency has a clear website and has even designed a talent map showing the map of the national and regional "talent pools" in some key areas: engineering, technical IT, foreign languages, financial services, environmental technologies. They offer skills assessments as well. So, what this case shows is that the government has had an extremely powerful impact on the reform of these sectors.

5.4 The Low Skills Equilibrium in Romania

The first chapter of the thesis has developed in detail on the low-skills equilibrium in the Romanian political economy. In this part of the thesis I draw on the analyses in the first chapter and present these in a comparative framework. Similar to the other three cases, this section of the chapter focuses on the role of the government in providing the infrastructure for a successful upgrading process of the firms active domestically focusing on the role of the government in HE development and the bargaining process with MNCs. Romania has been the least successful of the analyzed economies (as suggested by R&D spending levels of private firms active domestically or by the GDP/capita levels) and successive governments and governmental institutions have played a critical role in this process. The governments have not been involved in steering HE to become more conducive to upgrading and the main reason for that have been the orientation of political parties combined with the pre-existing low level of sophistication of the economy.

The role of the government in promoting both FDI and higher education tailored specifically to the needs of a company has been limited. The cases of Estonia and Hungary have shown that achieving higher levels of sophistication was supported by a pro-active government. Those cases have shown that a government needs to provide infrastructure, both physical and human capital. Roads and education are part of the package, physical infrastructure usually takes central stage in debates, but providing a skilled labour force has proven to *a sine qua non condition*. The Romanian government, unlike the governments in Estonia and Hungary, has historically not been an active promoter of FDI, nor a selective promoter. Unlike in Hungary and in Estonia, where the first post-communist governments actively promoted FDI, the first post-communist government in Romania, headed by Nicolae Vacaroiu of the socialist party, had a more inward-oriented strategy. This might

have been a missed opportunity if the government did not try to support the creation of human capital instead. At the beginning of the transition when the first socialist government in power was the successor party of the communist party (PDSR), the government was a promoter of a more autarkic developmental strategy. Once having opened up to FDI, it has done so unselectively. While a government could attract foreign capital either selectively or unselectively, the Romanian government has not been involved in either. This has had an important impact on the diverging levels of sophistication of these economies.

Moreover, the formal institutional framework put in place by the government for promoting foreign investment is more fragile in Romania. A Romanian agency for the promotion of foreign investment (Agentia Romana pentru Investitii Straine ARIS) has existed between 2002 and 2009 but this has ceased existing after 2009. The center for promoting trade and foreign investment has been headed by several managers unknown to the business environment, which was met with criticism, Stefan Imre, Gabriel-Bogdan Neidoni, Mihail Ovidiu Mihaila being some of the directors according to Ziarul Financiar (2013). While the Romanian government has not made an agreement with a consultancy company to promote the domestic business environment, one financial consultancy provides an excellent overview of the different tax regimes relevant for private companies (KPMG. 2013. Investment in Romania). Nonetheless, local universities have started cooperating with companies in order to build links and this has been the case in Sibiu, where the University Lucian Blaga cooperates with the tire company Continental. This shows that there is scope for such cooperations even in a less friendly environments. These activities seem less intense than in Hungary or Estonia.

In Romania, other institutions are more prominent in promoting foreign direct investment or in facilitating cooperation, such as the chambers of commerce. Going back to the tree showing that MNCs make decisions once voters and governments have settled on their best strategies, this means that the equilibrium will be automatically at a lower level. The American and the German chambers of commerce are particularly active in lobbying the government for various facilities but less so for achieving common objectives, such as investing in skills.[15] This is unsurprising and it helps to better understand this structural difficulty to increase the sophistication level of the Romanian economy. These chambers of commerce are relatively more vocal than in the other

[15]They expect "a stable, predictable, legislative and fiscal framework, coherent public policies, transparency in the decision-making process, clear country and sector strategies, to name a few" (American Chamber of Commerce).

countries - relative to how active the government is.

At the same time, MNCs do not have strong links to Romania. Most banks have now been privatized, and CEC Bank (in the top 10 banks by assets) is the only commercial bank still state-owned. This points out that once a country of destination has been chosen the ties to that country are not necessarily something not to be broken. Nokia, a telecommunication company, and Tnuva, a diary company, have left Romania after 2012. A service center of the ING bank that was located in Cluj has moved to Hungary. The same can happen for manufacturing companies. Coca-Cola, Nestle and Kraft have been relocated to Bulgaria (Ziarul Financiar 2013). This shows that conceptualizing MNCs as inward or outward oriented is not neccessarily helpful, as companies can move abroad, close to the borders, and still rely on the neighboring market for placing products there. It also shows that the decision to relocate is not uncommon or unlikely for MNCs.

This is relevant in the context in which PWC (2014) conducted a CEO survey in Romania in 2013. Less than half of the CEOs see innovation in services and products as an opportunity to grow. This speaks to the different strategies of growth MNCs have in Romania compared to the other countries analysed. Cost reduction is considered the main method of restructuring in Romania. It is not moving upwards the value chain. Businesses in Romania do not expect the government to invest in providing a highly skilled workforce. This is not surprising given the high self-selection of these businesses in Romania with an interest in other activities than R&D: "Only 35% of CEOs in Romania believe that creating a highly skilled workforce should be one of the top three priorities of the government. This is lower than in other countries of the region. "Only 12% of CEOs in Romania believe that developing an ecosystem of innovation fostering growth should be a Government priority". Therefore, it is evident that the demand for these innovative activities and innovative labour force will not be fostered by MNCs. This can be promoted by the government through either bargaining with MNCs or with HE institutions to promote innovation. Nonetheless, if the government responds to existing demand of companies and if it tries not to stimulate the demand for more sophisticated activities, these activities are less likely to emerge. The next case study on Poland will provide more insights into this.

Many factors have influenced the different starting points in the transition and these different departure points are considered to be exogenous. I have shown previously that in the first two decades of transition MNCs were attracted by the geographical proximity of these countries. This

has become visible in this chapter also, when looking at the automotive industry in Hungary. But as soon as these countries become more engaged in developing higher-value-added services, these geographic considerations are expected to become less relevant, for example for the IT industry or for services. It is at that point that competition for FDI between the governments of CEE will become even more acute. And this may pose even more challenges to the countries that are now trapped in low-skills equilibria.

One conclusion that emerges from the study of the low-skills equilibrium is that an important supporter of this low equilibrium has been the government, which have not provided the same type of support on behalf of the state as has been the case in Hungary or in Estonia. In Romania, chambers of commerce have been active lobbying a rather laissez-faire government in order to keep the existing framework or to ammeliorate it marginally, but not to a high degree, which would eventually lead to more sophisticated activities. A remarkable difference between Hungary and Romania is the fact that other actors have a vested interest in promoting Romania as an investment destination but this has not led to the same results in terms of the sophistication level of activities. This provides some support for the claim that governments matter more than chambers of commerce in promoting economic upgrading. This finding is very much in line with the work of Bohle and Greskovits (2012) who find that Romania developed inot a more liberal market economy almost by chance rather than by a clear intention of policy makers. The way in which this insight is used, nonetheless, is new and hopefully informative for the processes of change taking place in these countries. The next case focuses on Poland, a country twice as large as Romania in terms of population and which has also inherited a large agricultural sector from the communist period. Nonetheless, developments have differed significantly here.

5.5 Poland's Up' and Downs

Similarly to Romania, Poland has inherited a large industrial sector and a strong reliance on heavy industry. Nevertheless, the two countries could not be further away today. Poland has been the only EU country not to have fallen into reccession during the global economic crisis that started in 2008. This also explains why foreign capital continued to flow into the country. FDI rose by 38 percent in 2011 compared to 2010 according to data from the National Bank of Poland. Nonetheless, Poland's economy has not been continuously successful during the transition years. The more innovative

companies tend to be concentrated in the proximity of the two larger cities: Warsaw and Krakow and this has been strongly supported by successful Polish governments after 2000.

The Krakow Technology Park, for instance, has been designated a special economic zone whose purpose is to develop innovative businesses and the tax regime supports these investments. Greenfield investments benefit from tax exemptions as well. Business consulting companies therefore consider Krakow to be a top destination for outsourcing in the emerging economies. Many companies are active in Krakow, including Amway, Google, IBM, Lufthansa, and Tesco. Business process outsourcing is important, along with IT and energy and construction. Moreover, having a strong region seems to be a priority for Poland. As well emphasized in brochures advertising Krakow as an investment destination, geography plays an important role as well. Berlin, Bratislava, Budapest, Prague, Vienna and Warsaw are within 600 kilometers of Katowice.

One of the strategies adopted by the Polish government has been to diversify the industrial production, a similar measure had been decided on by the Estonian government as well. Therefore, the economy is not only concentrated on the automotive sector. The aviation industry stands out and is advertised by the Polish investment agency as being strongly connected to the global industry. The same agency advertised the industry as one of the most innovative industries in the Polish economy. Companies register large expenditures on R&D, cooperate with research centers, participate in interntional projects aimed at developing their human potential in strongly developing clusters. "Companies which have recently invested in Poland (Hamilton Sundstrand, Hispano-Suiza, EADS, Agusta Westland, Sikorsky, Goodrich, MTU) are already planning further expansion" (Polish Investment Agency 2014). Moreover, the national government actively supports the aviation industry. The National Centre for Research and Development (NCBIR) is set to invest 75 million in 2013-2017 in scientific research, development and knowledge transfer to the aviation industry. Here, Poland builds on its competitive advantage, but the support of the government has been crucial.

Another important branch is the electronics industry. Poland is the largest producer of LCD sets and household appliances in the EU according to data from Amadeus. The value of the Polish electronics market has reached approximately $7.6 billion in 2013 (Business Monitor International (BMI). Electronics are all foreign companies: LG group, Dell, Sharp, Funai, Toshiba, Bosch, Electrolux, Indesit and Whirlpool, all have manufacturing bases in Poland.

Again, in relation to the discussion on companies using these markets for their increasing capacity to absorb goods and services, this will be a less source of growth in the years to come. "Prior to the crisis, one strategy frequently employed by emerging market investors was to put money into sectors with attractive underlying macroeconomic drivers and then ride the wave of growth. Acanthus associate Kanika Kumar described this approach as potentially less realistic in todays environment" "For CEE in particular, extracting growth is increasingly a matter of maximizing efficiency at the micro level: working directly with entrepreneurs and helping them to expand their businesses. For this you need the right manager with local knowledge and experience, she said.

6 Conclusion

The previous chapters had explained how difficult it is for equilibria to move from a low level to a superior level given the strong incentives of the key actors determining these equilibria. Pierson (2004: 10) expresses these self-reinforcing dynamics more generally and perhaps more clearly: "once established, patterns of political mobilizations, the institutional rules of the game, and even citizens basic ways of thinking about the political world will often generate self-reinforcing dynamics". This chapter has thus started by acknowledging the great difficulties of upgrading and has explained the institutional dynamics that are conducive to these equilibria. It argued that the relationship between the government and MNCs - mediated by human capital formation (HE institutions) - can be fundamentally altered by a pro-active government. In these political economies that are heavily reliant on MNCs less likely to invest in developing a local human infrastructure, the support of the government has been identified as a necessary condition for upgrading. By analyzing four cases in a qualitative comparative analysis, the chapter has argued that some governments have provided the environment conducive to upgrading while others have not. Therefore, the main argument of the chapter has been that governments' different levels of commitment to improving the skill level and the skill structure has been an essential contributing factor for the firms active domestically to improve their position in the value chain.[16]

Variation *within* countries in the HE sector as well as in terms of the sophistication level have been determined by the actions of governments in an essential way. The beginning of transition

[16]I refer to *countries*, but the units of analysis are firms within these countries. The aggregated output and behaviour of firms determine outcomes at country level and I therefore refer to the aggregated value of firm-level variables as a country-level variable.

has been unquestionably relevant for the general path of these political economies. Therefore, the first post-communist governments had a more important role to play than subsequent governments. When talking about critical junctures, Pierson (2004) explains that early draws in each trial will have a powerful effect on the possible equilibria that will emerge. The farther into the process we are, the more difficult it becomes to change the course. This is the reason why one should pay particular attention to the initial processes - hence to the parties that have been in power at the beginning of the 1990s and to the initial decisions regarding the liberalization of HE. The decisions at the beginning of the transition have been highlighted in the case studies. Nonetheless, once countries have started to move along a chosen path, this path can be redirected but supplementary effort is required. This means that historical path dependencies are not entirely deterministic. Their course can be changed but given these positive feedback processes, more effort will be needed. As Paul Pierson phrases this "Were talking about trajectories that are inherently difficult to reverse (Pierson 2004: 38). This chapter has tried to explain how institutional change can occur despite these self-reinforcing dynamics.

However, the mechanisms surrounding these developments, i.e. the government's determining role in institutional change, have been complex and have not always worked smoothly.[17] Several mechanisms can be at work when governments mediate between HE institutions and MNCs. It has been shown here that various mechanisms can be effective in providing a prolific environment for the firms to upgrade. The important feature is that the government assures the simultaneity of these measures, that it simultaneously incentivizes students, HE institutions, and firms. This is the most important finding of this chapter and its relevance is considered in more depth in this conclusion.

The framework used for explaining these dynamics brings the role of political parties in government to the forefront of analysis. Explaining how governments manage to provide the framework for firms to move up the ladder of economic sophistication in some countries but do not in others also entails a normative stance on what a government is expected to deliver. Improving economic performance is certainly a desirable outcome for all governments and citizens, a valence issue. In the face of this common aim - a better economy - not all governments deliver equally efficiently.

[17]Poland's government, via its education ministry, decided to offer scholarships to students studying certain subjects, namely hard sciences. The outcome was that some students enrolled in the first year for the purpose of receiving the scholarship and quit the programme after one year (Interview 2014).

The illustrative cases suggest that the governments that have been most successful in supporting upgrading have focused on improving the quality of HE (spending/student), with an implicit focus on hard sciences and engineering. I elaborate here on different forms of upgrading and on the complex processes underpinning these developments. The next chapter is trying to explain why certain governments have been more committed to providing the adequate environment while others have not.

Equally importantly, the analyses reveal that developments in each of these countries are not independent of one another. Analyzing domestic events without relying on a comparative framework might have led to biased views. In an ideal world it would be possible to observe firms upgrading in every country, to observe all types of upgrading. Nevertheless, this is rather unlikely. Some economies will eventually produce less sophisticated goods and services if these sophisticated activities take place .

These findings are more broadly relevant for the thesis and should be linked to previous findings. Unlike the previous chapters, this chapter provides governments with agency. This chapter has explained the sometimes complex channels through which political parties can influence the development of the higher education system and in turn of the economic sophistication of these economies. This is an important chapter in the architecture of the thesis as it provides key information about the links of MNCs and HE institutions. It shows that these links exist and most importantly that the link of HE to MNCs is not spurious. The next chapter will analyze into more detail the ways in which the political orientation of governments has influenced the development of HE in the region.

Chapter IV

Government Composition and Higher Education Spending

Is There a Left-Right Divide?

Contents

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1 Introduction

The previous chapter identified some mechanisms able to explain how governments have been important drivers of institutional change. The type of institutional change of most interest to the analysis was upgrading - understood as the capacity of firms active domestically to move from low- to high-skills equilibria. Some postcommunist governments across the countries of CEE have provided the physical and human infrastructure conducive to an increase in the level of sophistication of these economies. The argument proceeded by showing that successful governments have both negotiated with MNCs and have provided the educational infrastructure allowing for firms to upgrade. Nonetheless, upgrading is a complex process, requiring coordinated efforts of the government, of private firms and of institutions responsible with human capital formation - HE institutions. Out of these three institutions, governments have been identified as the most important institution able to coordinate the efforts of MNCs and of HE institutions. What has made the analysis all the more interesting was the fact that in the economic geography of CEE private foreign firms - MNCs - have an extremely strong position as employers of highly skilled individuals and as producers of goods and services at the higher end of the sophistication spectrum. The innovative twist of this argument was the fact that MNCs were important drivers of change as long as the government incentivized them in this respect. Indeed, MNCs have been more likely to be innovative according to recent analyses of the EBRD (2014) and the firm-level analyses support this .

The sophistication levels of economic activities conducted in the region have diverged and the different roles played by national governments can contribute to explaining these differences. The previous chapter identified differences *within* and *across* countries in the governments' strategies towards higher education governance. This chapter tests whether there are any systematic differences in the ways in which governments have regulated HE. One important aspect of upgrading is the availability of skilled labour in the market. Therefore, one key systematic role that can be played by the governments of the region in supporting these upgrading efforts is through managing the HE sector through financing and through institutionalizing the enrolment level.

This chapter aims to disentangle the different responses towards HE governance. Therefore, the question driving this chapter is: *Can the Left-Right orientation of parties in government explain the diverging HE policies of governments?* More specifically, the focus lies on the relevance of

the political orientation of parties in government for the development of higher education (HE). HE development is defined along two dimensions: (i) *public funding devoted to HE* and (ii) *HE enrolment*. The chapter's premise is that the *political parties* in power make decisions about the regulation of HE - captured here through funding and enrolment - and this chapter thus describes the mechanism surrounding HE regulation. Further, the chapter aims to test whether the commonly used classification of parties on a Left-Right axis and the cleavage implied by this classification can explain the decisions of parties in government concerning HE. The chapter provides *an analysis of observed policy outcomes* and suggests some inferences that can be drawn from the data about the effect of partisanship on HE development.

This contribution aims to integrate the partisan dimension into the analysis of skill formation and adds to the literature explaining policy outcomes in relation to cabinet composition. Some more nuanced partisan effects are presented in the case studies. The chapter makes *three contributions*. First, it tackles an important question regarding the redistribution to HE of resources collected by the government through taxes. The previous chapter showed that governments are relevant for HE and implicitly for economic development. This chapter tests whether commonly used partisan characteristics can explain *which* governments matter. It tests whether parties representing different constituencies have a different approach to HE *(i)*. Second, as emerged from the third chapter, decisions concerning education are closely linked to the capacity of these countries to upgrade economically. Hence, explaining which parties in government tend to be promoters of development sheds light on these countries' developmental premises and on their potential comparative advantages in the world economy *(ii)*. Third, theorizing further, this chapter is also a test of the agency-structure debate. The prior assumption of this analysis is that the structure of the economy - with its high reliance on MNCs - would not allow parties much room for manoeuvre and that therefore discretionary spending on HE *(iii)* would not be an option for them.

Governments make decisions concerning enrolment levels and concerning funding. However, education is not usually pictured in public discourse as being *politically* determined. Political parties present *education as a general priority* and governments as having to overcome some unseen structural forces (determined by macroeconomic dynamics) in order to direct substantial funds towards education. Unsurprisingly, this is not a particular characteristic of the region, but can be encountered in most democratic countries.[1] As such, the object of enquiry (dependent variable) is

[1]This discrepancy between what governments stand for in public discourse and what they do is not a characteristic

observed policy outcomes and the question of interest is whether these divergent HE policies can be partly explained by the partisan tenure of government.

This chapter proceeds as follows: first, it engages with the relevant literature and presents the theory and the testable hypotheses. Second, it proceeds to explain the empirical strategy, showing how the indicators are quantified and how the estimation is conducted, and presents the results. Third, I look more carefully at the activities of parties in government and provide an explanation of the potential mechanisms able to explain the patterns observed in some illustrative case studies, before concluding.

2 Existing Literature and Proposed Hypotheses

In this section I discuss relevant work on the partisan determinants of HE governance. This scholarship has mostly focused on advanced industrial countries, due to limited data availability and limited expertise on the rest of the world. I then move on to discuss literature on political parties in CEE. Lastly, I present the theoretical framework and the testable hypotheses derived herein. I explain how this work informs this chapter and how integrating this scholarship with the empirical analyses to follow makes an important contribution to this very literature.

2.1 Partisan Determinants of HE

Important scholarship has accumulated on the political-economic foundations of skill formation and its historical evolution (Culpepper and Finegold 1999, Thelen 2004). Political parties were not attributed any agency in these explanations and the most important reason for that was the focus on vocational training rather than on higher education developments. Vocational training is less dependent on regulations of national governments, but has developed in a closer and more straightforward coordination with local providers of training. Therefore, those specificities needed to be explained. Another strand of literature closely linked to the varieties of capitalism approach and its focus on skill formation has identified a mutually reinforcing relationship between social insurance, skill formation, and spending on public education (Iversen and Stephens 2008). This research links education spending to the historical emergence of three different worlds of human capital formation

solely of democratic countries, but the explanations provided in this thesis aim to be largely applicable to democracies. Ansell (2010) also refers to the positive connotations of HE spending in public discourse.

closely linked to the organization of capitalism: i) high redistribution and education spending, high occupation-specific vocational skills; ii) high social insurance, vocational training in firm-specific and industry-specific skills, lower spending on public education and iii) heavy private investment in general skills, modest spending on public education on redistribution. Even though this research stream focuses mostly on pre-university education, one aspect is derived from here - namely the link between the organization of the economy and the role of education. This work informs much of this chapter as well as research on the political determinants of education more broadly.

Further, this chapter builds on research documenting the institutional set-up most likely to influence the development of HE. This chapter builds on this research as well. Ansell (2007, 2010) presents a model arguing that democratization and trade openness determine education expansion and funding, thus providing the most comprehensive and theoretically innovative analysis of education to date. He shows how proportional representation and majoritarian political systems in democracies lead to different political coalitions in government, and that these determine HE outcomes. Ansell (2010) also finds that parties largely reflect the educational preferences of their voting blocks - both right-wing voters and right-wing parties appear to share similar preferences for reduced or stagnant education spending.' For the countries considered (including the new OECD member countries in CEE), Ansell suggests that parties appear to be aggregating preferences in a manner that supports a low-income/high-income, Left-right divide.[2]

The contentious nature of education has been emphasized in an increasing number of comparative political economy writings (Ansell 2010, Busemeyer and Trampusch 2011, Castles 1989). A line of research focusing on OECD countries (Busemeyer 2007) has shown that public HE spending of Left- and Right-wing governments has tended to differ. Rauh, Kichner and Kappe (2011) show that German governments with a high proportion of leftist parties tend to spend more on HE. Ansell (2010: 140), for instance, suggests that the education policies of coalition governments should be examined by addressing the policy platforms of individual members, rather than just the average partisanship. Nevertheless, these coalitions are not tested. One aim of future research should be to test these hypotheses rigurously.

In an attempt to explain what makes private HE politically sustainable in the long run, Busemeyer and Iversen (2014) consider that the nature of the electoral system mediates outcomes:

[2]Similarly to most work on the political economy of education, he relies on the International Social Survey Programme (ISSP).

proportional representation (PR) versus majoritarian systems (MS) and argue that different political economic coalitions determine the trade-off between private and public alternatives for HE development. *In proportional representation systems, the lower and middle classes form a coalition supporting the establishment of a system with a large share of public funding. In majoritarian systems, in contrast, middle-class voters align themselves with the upper-income class and support private-education spending* (Busemeyer and Iversen (2014). The CEE electoral systems are either proportional representation or mixed types, and none of them are majoritarian. Here, the expectation is that coalitions can be diverse. Multidimensionality permits the emergence of "ends against the middle" political coalitions which are pro-redistribution, but opposed to education spending (Ansell 2010). The emergence of such proposed coalitions should be tested as well. Moreover, HE should be singled out in work on skill formation specifically because it is in the HE sector that political parties will be able to have an impact given that in unitary countries, and all CEE countries have a non-federal structure - it is national governments that decide over both enrolment and funding.

However, all this scholarship makes an unspoken assumption regarding HE: that increased enrolment implies increased funding. First, this thesis challenges this view by showing that in some political economies, such as the DMEs in CEE, increased enrolment can be a substitute for increased funding. Second, this research also suggests that political parties respond to different incentives when making these decisions. Third, this chapter also includes variables in the analysis that are linked to the organization of the economy.

2.2 Political Parties in CEE

Contributions to the political economic literature on the region have dealt astoundingly little so far with political parties (Bohle and Greskovits 2007, 2012, Drahokoupil 2009, Stark and Bruszt 1995). This literature has considered the capacity of states to contribute to functioning markets to be objectively determined and the influence of parties in government to be neutral for this outcome. Political parties in government have influenced the mere emergence of these new democratic institutions and they have continued to exert influence once these functioning institutions have been put in place. It is therefore particularly surprising that the political influence has remained unexplored and unexplained.

Explaining the political nature of public policies is particularly difficult in these new market economies. I therefore argue that two main factors explain why scholars analysing the political economy of the region have not provided political parties with agency: the theoretical approach and some empirical considerations specific to the new party systems in the region. First, the theoretical approach - the classic varieties of capitalism approach or the Polanyian framework embraced by Bohle and Greskovits (e.g 2007, 2010) - does not provide much space for political parties. In those formulations, other institutions determine outcomes, such as labour unions (or their absence), macro-economic policies decided by the central bank, or firms (Hancke 2011). Economic sociology literature (such as the excellent work of Stark and Bruszt (1998)) also does not take account of political system dynamics. Second, the extreme volatility of political parties in parliament also explains why parties have not been depicted in transition literature as having agency in political economic issues. This volatility has made it impossible to follow the evolution of the same parties over time, as they have disappeared and reappeared under a different lable.

Indeed, valuable literature on the party systems of the countries of Central and Eastern Europe (Grzymala-Busse 2007, Loveless and Whitefield 2011, Mikulova 2013, Pop-Eleches 2011, Sznajder-Lee 2011, Tavits 2010, Tucker 2006) has been concerned with explaining the sometimes surprising organization of political parties, their accountability and the role of political parties in democratization. Grzymala-Busse (2011) explains why Christian Democratic parties have been successful in some countries of the region but not in others. She concludes that "CD parties succeeded where they were perceived as more Democratic than Christian: specifically, where they had favourable historical reputations as state and nation-building parties rather than as agents of clericalism." Grzymala-Busse (2011: 320). Frye (2010) argues that during transition political polarization between ex-communist and anticommunist factions has had a devastating effect on economic growth.

The difficulty for researchers to notice systematic effects in an unsystematic world translated into one main concern: do parties have consistent stances on public policy issues? And do these stances differ from one another? Most interestingly, the question has been asked whether the supply of political parties allows them to effectively represent citizens in the new democracies of Central and Eastern Europe. The starting point of these analyses has been that parties do not represent different interests and that they do not offer an effective representation of cleavages given the young age of the party system and the extreme volatility of political parties. Contradicting

this view, Stephen Whitefield and his collaborators have shown in different studies that parties in CEE represent policy choices to voters similarly to those in Western Europe. As such, in 2010 Rohrschneider and Whitefield asked whether political parties offer consistent choices regarding the EU integration process. They focus on the same 10 countries of interest for this thesis and they analyze trends between 2004 and 2007. They find that "parties' integration positions in Central Eastern Europe reflect the views of their constituencies". This work relies on expert surveys and the findings are in accordance with their earlier findings (Rohrschneider and Whitefield 2007, 2009). Previously, they had argued that parties in CEE provide viable policy alternatives, package them as coherent programs, and represent constituencies (Rohrschneider and Whitefield 2010: 55).

This is an important finding and it will be used as the building block for the analyses in this chapter. The volatility of party organizations has the potential to negatively influence the ability of the voters to have real choices in terms of their elected representatives. What matters for policy-making is how political parties frame political issues and the stability of the stances they take on these issues. The question is what types of choices parties offer to voters: so this is a question about the supply side. And their argument is that the same policy space is populated by parties even if these parties appear and disappear. Relying on this systematic empirical research on partisan stances, we derive that we can use the Left-Right dynamics given that political parties populate the same policy space even if the parties change. Using the L-R indicator will make it easier to produce a systematic analysis, since this does not take this volatility into account. Tavits (2005) had also argued that the relationship between parties and voters had become more stable.

Nonetheless, the are some limitations to using this unidimensional space L-R and to putting each of these parties in a dichotmous unidimensional space. A wealth of literature has focused on the peculiarities of partisanship in this geographic area and on the complexity surrounding the consolidation of the party system. Therefore, relying on the L-R axis to understand the parties is a necessary limitation in order to be able to test the effect of parties on public policy. In this respect Tavits and Letki (2009) and Grzymala-Busse (2002) argue that leftist parties in the region eschewed typical leftist policies while broadening their electoral base at the beginning of the transition, when the Left was generally delegimitized. One option that rightist political parties in CEE could have embraced in the post-communist environment where the leftist ideology was generally discredited (Tavits and Letki 2009: 555) was to promote policies similar to those, generally accepted, of

Left governments in other OECD countries. While this literature may suggest that we ought to reconsider our understanding of the L-R dimension in partisan politics in the CEE countries, I rely in this chapter on widely used indicators in both voting behaviour and political economy. These indicators are generally accepted, including in this region, in order to distinguish parties in CEE on the Left-Right axis.

This chapter adds to these substantial bodies of literature since it focuses on CEE and its party systems and their relation to HE, placing them in a comparative perspective. Appendix 5 of this chapter includes a table with the L-R coding of each of the governments in power.

2.3 Theory and Hypotheses

Two inter-related reasons explain why the political orientation of the government can matter for policy-making regarding HE: it is a way for governments to respond to the preferences of their constituencies directly and, in a larger context, to contribute to economic upgrading. These two reasons are inter-related because they are at heart questions about redistribution - governments collect taxes and subsequently decide how to spend these collected taxes. This decision is expected to affect spending patterns on HE. At the same time, governments will decide how much to liberalize and how much to spend on HE and this is likely to influence spending/student ratios. Therefore, it is expected that the political orientation of the government will influence both spending and enrolment patterns, as well as their ratio. Hence, several hypotheses are proposed and tested in order to undersand whether the variation in HE development can be explained by the L-R orientation of governments.

First, public spending on higher education is essentially a redistribution issue, as extensively argued by Ansell (2010). In short, governments make decisions about redistribution by deciding on taxation levels and structure, and on the way in which the budget at the governments disposal will be distributed. And the Left-Right dimension is expected to determine how parties will cater to their constituencies. I shall argue that HE is the one sector that would allow parties in CEE to cater to their core constituencies. The reason for this is that, in CEE specifically, HE is considered a more secure path towards higher incomes and better paid jobs. This expectation stems from the experience under communism and the planned economy, when an HE degree would automatically

translate into a better job.[3] Moreover, the education system, up to secondary school level, is relatively egalitarian, so a large proportion of the population would be qualified to apply to university. This would allow highly educated individuals to make the step from blue- to white-collar jobs. Therefore, the expectation is that HE will be a salient issue for voters and for political parties. Accordingly, the different electoral bases of the political parties will determine different HE spending patterns (Hibbs 1977).

Second, spending and enrolment on education is one way in which governments can promote the productive sectors of the economy and thus support upgrading efforts of firms, as explained in detail in the previous chapter. It would be therefore be relevant for the purposes of the entire argument of the thesis to test whether governments are responsive to the level of economic sophistication in these countries or rather only to strict electoral concerns (to their constituency). I propose the following testable hypotheses:

Left - Centre - Right

- *H1: The larger the middle class, the more resources the government will devote to HE.*

Given the contentious nature of HE as a redistribution issue and the nature of the electoral systems (PR or mixed in CEE), the expectation is that three distinct socio-economic coalitions will emerge, with different preferences regarding HE.[4] Having parties in parliament representing different shares of the electorate will have different effects on HE funding and enrolment. If parties representing these coalitions form the government, the preferences of these voters will be transformed into policy. The hypothesized preferences are listed below.

- Lower Class Coalition (L): will not benefit directly from government investment in HE or in R&D-related activities. In CEE specifically this lower class is usually active in agriculture or in low-waged manual work.

- Middle Class (M): can take advantage of the potential innovations taking place in these economies and find employment in the more advanced sectors or themselves contribute towards the emergence of these advanced sectors.

[3] Of course, this is not a characteristic solely of this region.
[4] This builds on the work of Ansell (2010) and Busemeyer and Iversen (2014).

- Upper Class (U): the elite is already privileged and will not benefit from more R&D or from more education, given the externalities it will have to deal with once more people become better educated.

The middle class can benefit from employment in companies with an increasing level of sophistication of activities. Neither the lower class nor the elite will benefit from upgrading as much as the middle class. Voters forming lower-class coalitions will most likely not even be faced with a decision about attending or not attending university they will not finish upper secondary school or will prefer an easy path through university. The elite already benefits from being at the top of wealth distribution. They could lose their privileges if structural changes start taking place, while the status quo allows them to take full advantage of the EU common market, including access to universities abroad. It therefore follows naturally that countries with a large middle class end up with governments pushing for innovation and upgrading, which will eventually lead to breaking out of the low-skills equilibrium. Or, if the hypothesis is less nuanced, we should not expect Right-oriented governments to invest in HE. Empirically, at the aggregate level, employment structure and wage differentials should dictate preferences concerning HE spending. [5]

Nevertheless, depending on how these coalitions are defined and on their empirical size, it is possible that the preferences of the three classes can be represented in a dichotomous framework. Moreover, we may consider that the lower-class coalition will be able and willing to take advantage of this upgrading process and could therefore also benefit from upgrading. This leads to a new set of hypotheses, focusing on two dimensions: L and R.

Left-Right Dichotomy

The L-R dichotomy can be considered as a specific case of the L-M-U framework proposed above. Other analyses have been proposed in the literature, for example in research concerned with the different effects of the political orientation of government (on a Left-Right axis) on education spending. It is possible that the upper and lower class will vote for the Left and the middle class for the Right in the region. Surely, this is a limiting simplification which does not allow for many nuances, but is not implausible. These rather straightforward arguments have been tested empirically in the OECD countries, but without much theorization (Rauh, Kichner and Kappe (2011).

[5]Employment structure should be correlated with the gini coefficient. Then, at the micro-level, one person's employment (and wage) should be determining preferences concerning HE.

- *H 2a. Governments dominated by parties of the Left will be more likely to support spending on HE.*

- *H 2b. The interaction of enrolment and funding will differ between governments of Left and Right.*

  The evidence gathered through interviews suggests that increasing HE enrolment should be associated with governments catering to the lower- and middle-income categories - governments of the Left. This is the hypothesis of complementarity between enrolment and funding.

3 Empirical Strategy

First I provide a description of the evolution of HE in relation to political parties, which is briefly described in the next subsection. Then the descriptive analyses of measured country differences in HE indicators are supplemented by regression-based analysis. I test whether there exists some co-variation between the political orientation of the party in government and the evolution of HE funding. I rely on country-level data to point out interesting connections.[6]

Given the limited availability of data, several ways of approaching the processes of interest are proposed. This chapter relies both on statistical estimation and on case-study work. Especially for the statistical analysis, the challenge that needs to be tackled is the limited number of observations. Furthermore, the data is clustered in three ways: years, countries and elections. Therefore, in order to provide a persuasive and accurate explanation regarding the processes of interest, data analysis is conducted in two ways. First, the statistical analysis uses alternative specifications to ensure the robustness of the results. Second, the illustrative case studies preceding the conclusions provide an analytic narrative illustrating the model. While these approaches would not suffice on their own, using them simultaneously provides some confidence that the analyses in this chapter are accurate.

3.1 Data Sources

I analyse the effect of the position of a political party on the party's behaviour once in government. In explaining how parties distribute resources in relation to their positions on the generally accepted

[6]In order to make bolder claims about the causal relation between spending and the Left-Right orientation of parties in government, we would need data encompassing a longer time period.. Future research should also test these relationships at the micro level (individual voters).

L-R axis we need to resort to widely accepted indicators.[7]

I rely here on a collection of constantly updated data on political institutions (Doring and Manow 2014).[8] ParlGov includes data on the CEE countries and provides aggregated party positions in several dimensions, including the Left-Right dimension.[9] The comparative political data set (CPDS III) is another widely used collection of data on political institutions that is used here in a complementary fashion to retrieve the type of political system.[10] These are matched with data from ParlGov.

I rely on raw data on parties that includes information on the starting date of the cabinet as well as on election dates. I restructured the data into a panel format including yearly information on the structure of the cabinet, which allows me to make coding decisions that are justifiable from the perspective of this research project. The government making decisions is coded as the first government in power each year.[11] The reason for this is that decisions regarding budget allocations are usually made a year ahead. So, a government makes decisions in 2004 regarding budget allocation for 2005. The same applies to decisions regarding the regulation of HE, i.e. amending legislation to allow enrolment to increase.

The main variable for parties is the Left-Right indicator.[12] Political parties positions are included in the ParlGov party table. This indicator is provided on a 0-10 scale - according to the conceptualization of Castles/Mair 1983 – Left/Right; Huber/Inglehart 1995 – Left/Right; Benoit/Laver 2006 – Left/Right; CHESS 2010 CHESS cross-validates the survey with what voters think according to the European Elections Study.

[7]However, I should note that the L-R axis is perhaps erroneously considered as objectively given. Independent of the processes of validating the indicators representing the parties on the L-R axis, this dichotomous dimension is still an imprecise evaluation of parties.

[8]Project conducted by Philip Manow and Holger Doring at the University of Bremen (available at www.parlgov.org).

[9]These positions are time-invariant, unweighted mean values of information from party expert surveys on a 0 to 10 scale. Original values are rescaled before calculating the mean.

[10]CPDS III is the latest version, this dataset is not being updated.

[11]Each January in which a party was in power was coded as a year for which the government made decisions.

[12]The state-market dichotomy could also be used here, but I think the more general position is what determines voter's decisions to elect a certain party. Parties can be classified in terms of their stance on economic issues. Parties on the economic Left want government to play an active role in the economy. Parties on the economic Right emphasize a reduced economic role for government: privatization, lower taxes, less regulation, less government spending, and a leaner welfare state: state-market - economic left right as well as taxes and spending (Benoit and Laver 2006).

3.2 Descriptive Statistics

First, I present some descriptive statistics and associations, followed by a description of the empirical approach and by the operationalization of these indicators. Following Castles (1989), this paper scrutinizes *levels* of and *change* in HE expenditure. Figure 2 shows enrolment change according to the political orientation of the party in government.

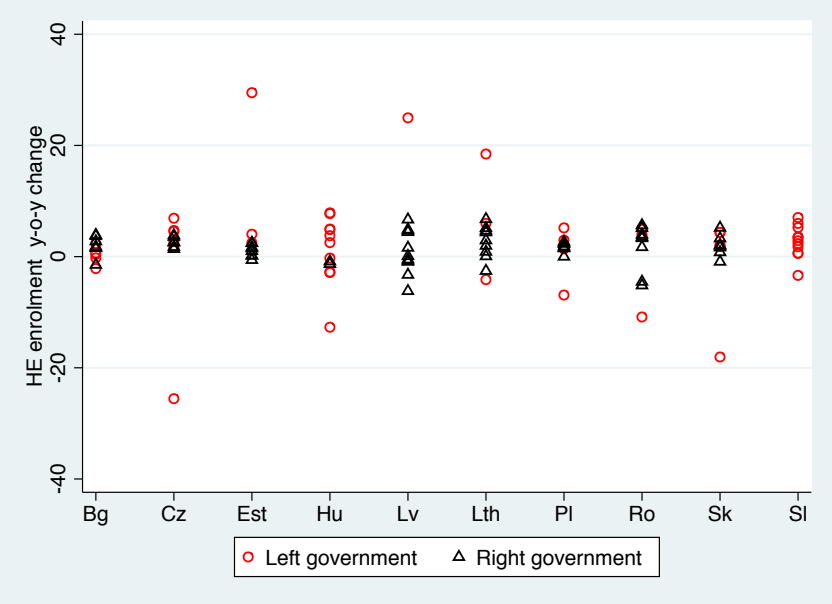

Figure 1: Spending on HE versus Political Orientation of Government

I consider rates of inclusion in HE, so gross enrolment levels at ISCED levels 5 and 6.

Figure 1 shows data on HE funding according to the political orientation of the government in power. I notice rather stark differences between countries. In Slovenia, the country that has spent most on HE, cabinets have been dominated by parties of the Left. Bulgaria has spent less than 1% of GDP on HE, independently of the political orientation of the party in government. The Czech Republic has spent less when governments of the Left were in power. Estonia has increased spending independently of the political orientation of governments in power. Left-dominated Hungarian governments have spent more than Right-wing governments. Slovakia and Latvia are the only two countries, out of all the 10 countries considered, that have spent less than 1 % of GDP on HE. Latvia has been dominated by Right-wing governments, and Slovakia by both Right- and Left-wing governments. In Lithuania, the picture has been quite diverse, with its Left-dominated

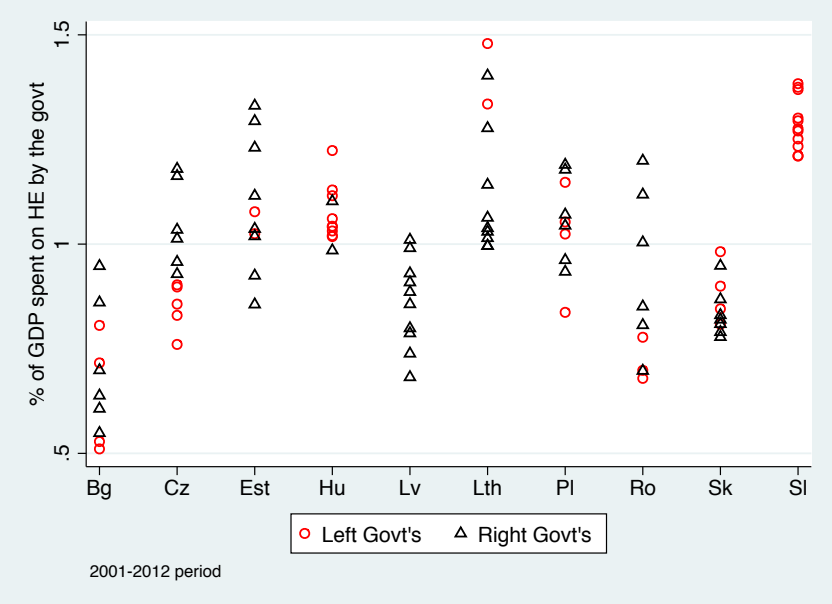

Figure 2: Enrolment Change versus Political Orientation of Government

government spending most on HE, close to 1.5%. In Poland governments of the Left have spent less. In Romania, the Left seems to be spending less than the Right. These mixed results may point towards the fact that the L-R dichotomy does not explain HE spending and that we should also consider our three categories (L-M-U). At the same time, many other variables may be determining these outcomes, a situation which will be explored in the regression analyses in the fourth section.

A clearer pattern within, but not across, countries emerges when analysing enrolment (Figure 2) The Czech Republic, Hungary, Poland, Romania and Slovakia registered falling enrolment levels when a Left-wing government was in power, while Estonia, Latvia and Lithuania registered increasing enrolment levels when parties of the Left were in power. However, these patterns may have emerged as a result of timing and of other intervening variables, so only limited conclusions can be drawn. Accounting for such intervening variables will be dealt with by using regression analysis. Most important to observe in both Figure 1 and Figure 2 is that the variation in the dependent variables is large and this requires explanation .

Data on country-level indicators Next I present an overview of the summary statistics corresponding to the variables I identified as relevant for the model (see Table 4).

The country level data for enrolment and expenditure as percentages of GDP was retrieved from

Table 1: Summary statistics - Country Level

Variable	Mean	Std. Dev.	Min.	Max.	N
Enrolment	58.13	15.71	21.63	88.46	138
Expenditure	0.99	.20	0.51	1.47	104
GDP/capita	9828.04	5791.25	1611.75	27032.67	140
LEFT	38.56	43.54	0	100	129
CENTRE	29.00	37.21	0	100	139

LEFT:% of left parties; CENTRE:% of centre parties

UNESCO, the data on GDP was retrieved from UNCTAD, whereas the electoral systems indicators are from CPDS III. The Left-Right dimension was recoded as a binary variable, Left-party, 1 for parties with a Left-Right score higher than 5 and 0 otherwise. The Left-Right dimension has been extensively used in similar studies. In the alternative estimation, focusing on L-M-U, centre parties were coded to be above 3 and lower than 6.5 on the Left-Right scale. The analyses I conduct in this paper rest on 14 years for each country and I analyse 10 countries. The existence of data on these dimensions for years after 2000 makes me more confident that I am capturing reliable data, since the CEE countries had become democratic and functional market economies by this date.

Dependent Variable

I present estimations for two sets of dependent variables (DV): (i) *spending for HE* and (ii)*enrolment in HE*, as well as (iii)*spending/enrolment*. In order to explain the spending patterns of the government I rely on the indicator spending as a percentage of GDP because this indicator is not dependent on the share that education spending represents compared to the size of the government, but rather compared to the size of the entire economy. This represents how "education intensive" the economy is, which is what is relevant for the sophistication level of the economy. Alternative indicators such as the percentage of government expenditure for HE can be used as well. For the second analysis, enrolment levels are measured as gross enrolment ratios - enrolment in proportion to the size of the typical age cohort in education. Third, as explained in previous sections, the relationship between spending and enrolment will also be explored because this can be considered to be a rough indicator for HE quality. The analysis of spending/enrolment is better explained by the distinct patterns of left- and right-wing oriented governments.

Main Independent Variable

The main independent variable of interest is *government participation of Left parties* or, put

differently, share of Left parties in government. I first calculated the share of each party in cabinet and its corresponding Left-Right dimension. This was subsequently added to form another variable, the share of cabinet participation of parties of the Left and the data is included in the appendix 5. Given that the expectation is that governments dominated by left parties will influence policies differently than governments dominated by right parties, the indicator of interest - LEFT is recoded as a dummy variable, with the value 1 if the government is dominated by left-oriented parties and 0 otherwise. The treshold is at 50%+1 parties of the left, then this is coded as a left-dominated government. Otherwise the government is considerd to be a right government.

The L-R axis is one way to classify the parties represented in parliament but other classifications can be constructed as well. One such way can be the parties that support the market and those that do not; parties that represent voters working in advanced sectors of the economy and those that do not. But the most interesting feature of relying on the L-R indicator is that this has not been designed in order to explain HE developments specifically, but is a more general indicator. Therefore, it is exogenous to the purpose with which it is used in this case.

Independent Variables

Other control variables are those used in the literature, for example by Castles (1989), Busemeyer (2007), and Busemeyer and Iversen (2014). It is important to also use this control variables in order to control for other sources of variation that could lead to false inferences regarding the variable of interest: the Left-Right indicator and how this can be used to predict the dependent variables: spending and spending/enrolment in HE. Therefore, I here briefly explain the use of these control variables. It is generally known that spending on education is positively correlated with the level of economic development, so the analysis controls for GDP/capita levels. Magnitude of demographic demand will also influence spending, hence I control for HE enrolment levels. Further, federal and unitary countries are expected to differ in the ways they distribute funding to HE. However, all the countries in the sample are unitary, so there is no need to control for this institutional feature. I distinguish between different electoral systems, proportional representation and mixed systems. None of the CEE countries has a majoritarian electoral system. Modified PR or mixed systems have been coded as 1 and PR as 0.

The expectation is that the spending decision made at time t will affect the actual spending made at t+1. Some decisions may also still be made at time t+1 – this is the inertia hypothesis, as

explained by Castles (1989). This is controlled for in the specification, using a lagged dependent variable.

3.3 Model Specification: Spending

As acknowledged by Busemeyer and Iversen (2014), *the analysis of aggregate data poses serious, but well-known, methodological challenges. Pooled time-series data are often plagued by serial autocorrelation of error terms within countries, panel-specific heteroskedasticity and contemporaneous correlation across units (countries) (Beck and Katz, 1995, Franzese and Hays 2008).*

As Busemeyer and Iversen (2014) point out, country-fixed effects solve some of the issues as long as the analysis is not trying to test the effect of time-invariant characteristics. I did this in Model (2) from Table 3. Model (1) shows standard random-effects estimates, which are only reported in order to stress the difference from the fixed-effects ones.

In order to further test the robustness of the standard errors, I assume the error process of our model is more complicated than a typical panel model. I therefore follow the Busemeyer and Iversen (2014) specification of panel-corrected standard errors (PSCSE), which, according to Beck and Katz (1995), will return accurate estimates of the sample variability even in the presence of complicated panel error structures. See Model (3) and Model (4) in Table 3. Model (5) adds the lagged dependent variable among regressors.

The results reflect, among other factors, the financial downturn that started in 2007-2008. This has most likely acted as an impediment to these countries ability to devote resources to HE. Interpreting the results should therefore take into account the unknown direction in which the crisis may have affected these dynamics between government and HE.

Table 3 displays the results of the models described. LEFT is estimated to have a positive and statistically significant at 95% level effect on the amount of spending on HE in almost all specifications.[13] Adding the lagged dependent variable in Model (5) seems to absorb some of the magnitude that other estimators were predicting for LEFT, however the effect remains positive and highly significant. Log GDP per capita is also estimated to have a positive impact, confirming the theoretical intuition that wealthier economies can afford higher spending on education. The impact of enrolment appears generally positive[14], however this is only significant when estimated by

[13]The fixed-effects model estimates a positive coefficient for LEFT, but it is not statistically significant.

[14]with one exception in the fixed-effects model

Table 2: Regression Table
- DV: Spending on HE as a % of GDP -

	(1) RE GLS AR(1)	(2) FE GLS AR(1)	(3) Prais-Winsten PCSE	(4) Prais-Winsten	(5) Prais-Winsten Lagged DV
LEFT	0.000966*	0.000278	0.00112**	0.00111**	0.000678*
	(2.50)	(0.61)	(2.82)	(2.72)	(2.07)
ln(gdp/capita)	0.103*	0.193***	0.115**	0.128***	0.0675*
	(2.50)	(4.05)	(3.27)	(4.87)	(2.50)
electoral system	0.108*	0.126	0.111**	0.121**	0.00865
	(2.18)	(1.50)	(3.03)	(2.64)	(0.37)
Enrolment	0.00380	−0.00615	0.00451**	0.00505**	0.00219
	(1.96)	(−1.55)	(3.16)	(3.21)	(1.89)
Lagged DV					0.577***
					(4.18)
Constant	−0.241	−0.444*	−0.398	−0.554*	−0.356
	(−0.76)	(−2.40)	(−1.24)	(−2.38)	(−1.74)
Observations	103	93	103	103	89

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Prais-Winsten. Once more, however, I would like to stress that by itself this econometric exercise can only provide some indication of the association between spending on HE and the position of most parties in the government. Limited sample size and further unobserved variables are likely to bias these results.

The one country that stands out in terms of its HE development in relation to the spectrum of political parties is Estonia, which, while increasing spending on HE, has had only Right-wing oriented governments in power since independence. The regression analysis was therefore re-done without including Estonia. The results remain very similar and are therefore not reported for the sake of brevity.

3.4 Model Specification: Spending/Student

This thesis has developed quite extensively on the notion of quality of HE. This is notorously difficult to measure, but one good way to capture it is the indicator spending/enrolment, as explained in Chapter II more thoroughly. We have noticed that enrolment levels have not been associated in any systematic way with the L-R orientation of the party in power. Now, the question emerges whether

the quality of HE - which is at the heart of the upgrading process - is in any way systematically influenced by the L-R orientation of the government in power. Therefore, spending/student (the quality of HE) is the dependent variable and the aim of this analysis is to test whether the L-R orientation of the government in power can explain part of the variation of this indicator. The specifications used in the analysis are very similar to the ones used in the analysis of spending patterns, but before showing the results a few more explanations are due.

The indicator spending/enrolment is a rough indicator and it is used complementary to the spending analysis above. The focus lies on the tension between enrolment and funding. This can be highly informative regarding the processes of upgrading. It is, as clearly shown in the previous chapter, not the only way in which governments can influence outcomes and upgrading requires much more effort of the government than just an increase in HE spending. Nonetheless, it would be informative to test whether the political orientation of the government influences this indicator, and thus, in the longer term, the possibility to upgrade.

Several other independent variables are likely to influence outcomes and are therefore included in the regression analysis. Political parties in government can influence the quality of HE, as already hypothesized in the introduction, LEFT represents whether the government is dominated by Left-oriented parties or not. The sophistication level of the economy will influence as well, therefore the analysis controls for the R&D spending level of the firms active domestically. Then, the question emerges whether different governments will respond differently according to the sophistication level of the economy.

To provide a better visual representation of the results, 3 provides a graph representing the fitted values resulting from the regression. The expectation is that the sophistication level of the economy will influence the propensity of governments to respond to expectations of voters for spending. The expectation is that governments that are Left-oriented will be more likely to respond to spending expectations as long as the sophistication of the economy is high. Nonetheless, the results show that Left-oriented governments are less likely to be responsive to the sophistication level of the economy. Therefore, Right-oriented governments are better for the economy because they are more responsive to the needs of firms. This result is very much in line with our hypothesis derived from the L-M-U classification of voters and then further simplified into L-R. Hence, right parties are the ones who respond to expectations of middle class voters, those more interested in developing the

Table 3: Spending/Student

	(1) OLS	(2) OLS	(3) PCSE CFE	(4) PCSE CFE	(5) PCSE CFE
LEFT	519.7	519.7	-337.2*	-337.2*	-20.71
	(263.4)	(278.2)	(161.6)	(161.6)	(159.5)
R&D (% of GDP)	2992.5***	2992.5***	1063.2**	1063.2**	1375.6**
	(403.4)	(395.2)	(384.7)	(384.7)	(488.8)
LEFT X R&D	-1157.7*	-1157.7**	232.5	232.5	-132.9
	(467.2)	(413.8)	(280.2)	(280.2)	(251.3)
GDP per capita	0.0956***	0.0956***	0.0899***	0.0899***	0.0590***
	(0.0196)	(0.0155)	(0.0102)	(0.0102)	(0.0170)
MNC					0.00765**
					(0.00279)
Population (mn)					-0.000909***
					(0.000178)
Government expenditure (% of GDP)					20.08
					(30.64)
Constant	1615.4***	1615.4***	1824.4***	1824.4***	8395.6***
	(187.6)	(201.8)	(215.5)	(215.5)	(1287.9)
Observations	106	106	106	106	104

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

economy to produce more sophisticated activities.

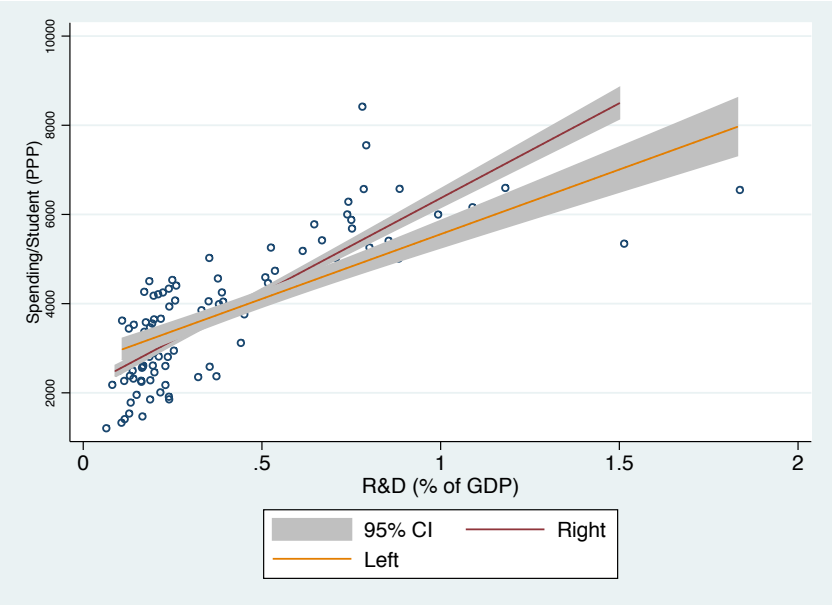

Figure 3: Fitted Values
Spending/Student (current US Dollars Purchase Power Parity)
vs. Sophistication Level of the Economy (R%D spending by Private Firms as % of GDP)

3.5 Concluding Remarks

I would like to point out that testing the L-R relevance for policy outcomes is, to a certain extent, a tautological exercise. The L-R dimension is defined (among other ways) according to the policies undertaken by parties, according to the official stances of parties on these policy issues and according to how voters perceive the parties in relation to policy. Then, at a second stage, researchers test the relevance of the L-R indicator for these policy-outcomes.[15]. It is still worthwhile to examine how parties in the region distinguish themselves in terms of HE governance.

These analyses point towards the fact that the different reactions of governments in power in relation to HE financing and enrolment can potentially be explained by some systematic differences between parties in the way in which they design policies. We do notice that there is a systematic association between governments dominated by left parties and the policies they undertake and

[15]L-R defined by country experts, matched with their official party positions and with voters evaluations of these positions

that this is systematically different from the policies of parties of the right. Nonetheless, given the extremely limited data points and the complexities that surround cabinet formation and the subsequent influence this will have on public policies, it would be an exaggeration to claim any causal links associated with these depicted correlations. A neglected aspect in the analysis is the fact that most of the governments that are analyzed are coalition governments and that it is likely that this will influence outcomes as well. This is one potentially intervening variable that is neglected.

It is possible that the parties in government are on the left of the political spectrum because these policies are needed and voters recognize the positive effects this will have on policies. It is also possible that parties on the Left of the political spectrum choose do enact progressive policies. Therefore, the next part of the chapter will try and provide some illustration of how different parties in government can enact diverging policies in terms of HE governance and how the trends that were depicted abobe can be explained by tracing the relationships between parties in government and the policies they enact once elected.

All in all, this analysis has argued that enrolment has not been influenced in a systematic way by the partisan tenure of government. Funding has tended to be higher when left-oriented governments were in power. But the most interesting result of these analyses is the fact that the ratio spending/enrolment has tended to be associated with the political orientation of the government in power as well as with the sophistication level of the economy. Certainly, the trends described are not absolute, we do not expect every left-wing government to act in accordance with the trend. Therefore, the cases below will not try to explain that the trend identified is also observable in individual cases, but rather that several mechanisms are at play and that they are conducive to the observations analyzed. The trends observed do not tell much about the direction of these relationships, nor about the causal mechanisms. This is why the case studies will try and illuminate this.

Future research will be able to take account of additional dimensions. The first additional dimension refers to the fac that this chapter has distinguished political parties on the Left-Right axis. Thus, this paper focuses only on this dimension, bracketing out any other aspects related to political parties that could explain HE variation. Three other political system dynamics should be included as potential explanations in future work. First, the governments included in these

analyses are all coalition governments and it is possible that they will have different effects on HE, depending on how cabinet seats are allocated. This should be further explored in future work. Second, another pathway to take is to test whether parties supporting more advanced sectors of the economy will differ from parties that appeal to voters active in less advanced sectors - such as the rural/urban cleavage or party families more generally. Such work could draw on analyses such as those of Tavits and Letki (2014) code Liberal, Christian Democratic, Conservative, Nationalist, and Agrarian parties as rightist, for instance. They find that parties have shifted from values to interests and that the cleavage that emerges is on the economic dimension, and not on values. Tucker (2006) uses another category, that of losers and winners of transition. Third, a question that remains is to which extent parties represent voters' divergent interests. The analyses that this paper rests are valid but those assertions can be retested.

One second dimension to be taken into account is to include in the discussion on CEE further countries from both the EU and other parts of the world in order to broaden the appeal of the theoretical framework advanced. The third dimension refers to the assumption of this chapter is that parties act as an agency on behalf of voters. If we expect differences between parties, this means we also expect there to be tensions within the electorate over these spending and enrolment patterns. We would expect to see that people want more or less spending. This should be tested with public opinion data. And last, more discussion is needed concerning the size of the budget. We are talking here about trade-offs between taxation and subsidies in order to attract MNCs. Hence, governments could run budget deficits, but if they do not want to run deficits, then they may cut the education budget.

4 Mechanisms at Play: Illustrative Case Studies

The following case studies illustrate how partisan tenure of government can influence HE development, aiming to explain the mechanisms at work. Each case first provides the indicator of the government on the L-R axis as used in the quantitative analyses and included in Appendix5. This aims to provide a short narrative of the HE policies promoted by various political parties in different contexts in these countries. It emphasizes the types of incentives that parties seem to be responsive to when enacting new pieces of legislation. Given that the regression analysis picks up average effects, the case studies show both parties that have acted as an average party on either

the Left or the Right of the spectrum and parties that did not act according to the pattern found in the previous section. While presenting these cases, I attempt to explain what motivates parties to spend more on HE and whether HE is a salient issue in public discourse. The analyses in the first part of the chapter rest on the assumption that HE is a salient issue, i.e. that it is on voters' and parties' minds and that the divergent options for parties are responsive to divergent views of voters. At the same time, these brief case studies also highlight whether HE is a contentious policy.

4.1 Hungarian HE Under Threat?

Hungarian HE received significant attention from close observers of European politics when the Orban government started in 2010 a controversial process of HE reforms, including massive budget cuts for HE. This is an example of a non-linear HE development, showing that active decisions of governments will lead to lower spending. It shows that the lower spending was not a by-product of other decisions in cases in which governments decided to direct spending for other more pressing public policy areas. As such, the government had stated that, in the longer term, higher education should be "self-financing" (Fuzessi 2013). This is a case of a rightist government deciding to limit education spending seemingly independent of competing spending areas and .

Viktor Orban's cabinet (II) was invested in May 2010, having formed a surplus majority coalition headed by the Right-wing (6.5) Hungarian Civic Union (Magyar Polgri Szvetsg - Fidesz) and the Christian Democratic People's Party (7.4) (KDNP). In 2011, the government reduced the number of scholarships drastically, which led to a 25% drop in the number of higher education applicants in 2012 (Fuzessi 2013). Students on government scholarships would now have to sign a contract in which they promised that they would work in Hungary for a period, within the next 20 years, of twice the length of their course (Fuzessi 2013). While this was a response of the far Right to the challenges of integration in the European common market and an attempt to keep its highly educated skill pool in the country, it also provides some indication that the migration of the highly skilled is indeed a salient issue. This was emphasized in Chapter II of the thesis. The government seems to have appealed to nationalistic ideals and less so to the structure or the needs of the economy - such as the necessity to attract highly skilled labour at home. One of the reasons why this has been a notoriously contested reform is the fac that the government has failed to understand the need to *incentivize* the different institutional actors rather than to force them through formal

requirements for students to stay in the country.

Nonetheless, these reforms build on work of previous governments. Already, in spring 2008, the government headed by Ferenc Gyurcsany of the Hungarian Socialist Party (2.9) (MSZP - Magyar Szocialista Part) had tried to introduce moderate ($550) fees to be paid by all students as part of its deficit-cutting reform package. However, a nationwide referendum in March 2008 rejected the package and the introduction of tuition fees was banned. Therefore, the Left-oriented government decided not to make HE budget cuts. Hence, the government was responsive to voters' concerns regarding HE and the debate about HE governance are salient in public debates.

The first democratically elected government, headed by Prime Minister Antall, was also a Right-wing government led by the Hungarian Democratic Forum (6.5). As Lajos (1993: 403) explains, funding was not as problematic in Hungary as in the rest of the region, especially at the beginning of the 1990s, due to a "relatively favourable government policy. Disaggregated data on HE funding as part of the general education spending is not available for the first decade of transition, but, the existing indicators suggest that the first post-communist government did not reduce HE budgets in Hungary, unlike in other countries of the region.

All in all, this very brief analysis of the political nature of HE reforms shows that the regulation of HE in Hungary has been an object of contention and that parties on the left and on the right of the political spectrum have pursued different policies once in government. Moreover, these reforms have been highly relevant in political debates and have even led to protests in the country. Moreover, the direction of change has not always been positive and linear.

4.2 An Improving Polish Higher Education?

While the reform of HE in Hungary has taken centre stage in the region and has led to street protests, Poland has also witnessed significant changes in its HE governance under higher education minister Barbara Kudrycka, in office between 2007 and 2013. The changes in government in this case have also had effects on the spending and enrolment ratio in the country. A member of the Civic Platform Party (6.2 on the Left-Right scale), she introduced controversial but progressive HE reforms - a cut in enrolment especially in certain fields. She was a member of the Tusk government, an example of a Right-wing partisan government preparing reforms in HE likely to be conducive to economic upgrading.

From a broader perspective, similarly to that of the rest of the region, Polish higher education has expanded. But some fields have expanded more than others. Kwiek (2012) shows how the expansion era in Polish HE lasted for 15 years, from 1990 to 2005, and that this upward trend in enrolment has slowly started to change. Kwiek argues that, paradoxically, Polish universities have become even more teaching-oriented than they once were. During communism HE instruction was separated from research and the purpose of the university was to provide instruction. Therefore, arguing that universities have become even more teaching oriented is a strong criticism of HE developments in Poland. Again, we are dealing with a university system divided between soft and hard fields, as in Estonia. The fields that have experienced the greatest expansion are also those that have done poorly, especially when their research output is analysed.

Kudrycka introduced a law designed to prevent this over-commitment of university professors by binding them to full-time employment in one university. Similarly to Romania, a ranking of universities was also introduced, according to which research funds would be distributed. These reforms resulted in a reshuffling of the entire HE system. Because parliamentary elections were approaching, as my interviewee argued, Kudrychka resigned at the end of 2013 as a result of her "too controversial reforms". She will now stand for election as a member of the European Parliament. Minister Kolarska-Bobiska took over the education portfolio after Prime Minister Donald Tusk's reshuffle in November 2013. The government of Tusk has both a Ministry of Education and a Ministry of Science and Higher Education.

So, this case shows that the government understood to incentivize students to invest in skills rather than coerce them to stay at home, as the Hungarian government has done and that this has proven more successful.

4.3 Romanian Higher Education

In Romania, it is the liberal, Right-wing-oriented party that has implemented reforms in HE, including increased funding. These reforms were eventually reversed by the socialist Party for Social Democracy (3.2) (Partidul Social Democrat PSD). Again, the different stances regarding HE of the parties on the left and on the right of the political spectrum are evident, as are the different voters that the parties are responsive to. The party on the Left is less responsive to the middle class, but rather to an underprivileged rural constituency, while the party on the right is more responsive to

MNCs and to the middle class voters. Hence, it is not surprising to find that these two parties have had different policies influencing spending/student ratios in different directions. This is a powerful rational-choice explanation of reforms and counter-reforms in Romanian HE that has been usually pictured as a more general failure rather than a reform that responds to middle-income voters on the one hand and to low-income voters on the other.

I will provide a snapshot rather than a systematic analysis of a most recent reform aiming to provide an indication of the processes at play. In 2010, the Centre-Right government headed by the Democrat Liberal Party (PDL - Left-Right indicator of 5.4) decided on a reform of the HE system, as extensively discussed in Chapter I. This would include increased spending per student, together with more strict criteria in university entrance examinations and proposed a hierarchy of universities in the country. At the same time, the reform would include tougher regulation of the baccalaureate exam and hence much lower enrolment in university, as young people would not be able to attend university without having passed the qualifying exam. In fact, around 50% of the cohort sitting the national examination failed. Results were similar in the following year. This created a large variation in enrolment after 2010, that is captured by the indicator "gross enrolment in HE".

The shift in government from majoritarian Right-wing to majoritarian Left-wing after the elections in 2012 thus meant an entirely new vision of HE would be implemented. The reform prior to 2010 was immediately reversed after 2012. The PSD may be considered particularly shrewd in its strategy for HE. Observers of the HE reform in Romania were surprised by these different strategies for the reform of HE and people associated with NGOs, as well as some academics, would have expected this strategy of going back on the reform to be political suicide for the PSD, Romania's most successful party since 1989 (Pop-Eleches 2007). However, this has not been the case. One important share of the supporters of the party is the rural, uneducated electorate. Hence, this difficulty with HE reform in Romania can also be understood in the context of electoral politics.

5 Conclusion

This chapter has attempted to identify some general patterns of partisan effects on HE development in the region. One might have expected that, given the sizeable institutional restraints faced by political parties in these economies, their room for manoeuvre would be restricted and hence parties

would not distinguish themselves when distributing funding for HE. This is what political economy literature focusing on the region would imply. The heavy reliance on MNCs should not have allowed parties much room for manoeuvre. At the same time, literature trying to explain the emergence of new party systems in the region and their institutionalization would have made researchers wary of any attempts to identify systematic associations of political parties with public policies. However, parties have distinguished themselves in their approach to HE. This is the most important finding of this chapter.

Governments across the region and within each country have had significant influence on HE once in government. And this influence has been determined by the ideological orientation of the party in government. This is an important finding in itself. Moreover, the statistical analysis shows that governments dominated by Left-wing parties tend to spend more on HE, ceteris paribus. The discussion of the case studies provides some more nuances on this finding. The findings of this chapter should make scholars of varieties of capitalism vary of the important effect that political parties can have on public policies. Political parties can have an effect despite inherent difficulties in distinguishing themselves in HE governance. This chapter should therefore be understood as a more politicized version of the varieties of capitalism literature. The alternative explanation that I argue against in this research is that I do not observe any effect of parties on policy. Hence, that is the null hypothesis that I argue against. So, this is in effect a strong critique of the varieties of capitalism literature.

This chapter has tried to show what we can infer from knowing the positions of parties, once in government, on the regulation of HE. The implications of the findings are diverse. First, these findings have developmental implications. The empirical evidence presented in this chapter seems to suggest that governments dominated by Left-wing parties tend to favour higher expenditure on HE. HE development will in turn influence economic growth. Second, in this chapter I have also provided evidence of the relevance of political parties influence on political economic processes, ie higher education.

The most straightforward implication of this chapter is that the political orientation of governments has an influence on political economic developments in the region. While the direction of this influence is not clear-cut, this paper provides a clear indication that parties matter in HE policy and implicitly in political economies. Future work should further explore the differences between

countries and the drivers of these differences.

6 Appendix

Table 4: "Left" indicator by government and country

Government	**Country**	**Year**	**Left**	**Max.**	**N**
Enrolment	58.13	15.71	21.63	88.46	138
Expenditure	0.99	.20	0.51	1.47	104
GDP/capita	9828.04	5791.25	1611.75	27032.67	140
LEFT	38.56	43.54	0	100	129
CENTRE	29.00	37.21	0	100	139

LEFT:% of left parties; CENTRE:% of centre parties

Table 5: Cabinet Membership of Left-oriented Parties (% of Left Parties in Government);
0 - Extreme Left and 10 - Extreme Right

Country	Year	Left	Cabinet Name	Country	Year	Left	Cabinet Name
Bulgaria	2000	0.0	Kostov	Latvia	2000	0.0	Skele III
Bulgaria	2001	0.0	Kostov	Latvia	2001	0.0	Berzins
Bulgaria	2002	14.9	Sakskoburggotski	Latvia	2002	0.0	Berzins
Bulgaria	2003	14.9	Sakskoburggotski	Latvia	2003	0.0	Berzins
Bulgaria	2004	14.9	Sakskoburggotski	Latvia	2004	0.0	Emsis
Bulgaria	2005	14.9	Sakskoburggotski	Latvia	2005	0.0	Kalvitis
Bulgaria	2006	30.4	Stanishev	Latvia	2006	0.0	Kalvitis
Bulgaria	2007	30.4	Stanishev	Latvia	2007	0.0	Kalvitis
Bulgaria	2008	30.4	Stanishev	Latvia	2008	0.0	Godmanis II
Bulgaria	2009	30.4	Stanishev	Latvia	2009	0.0	Dombrovskis
Bulgaria	2010	0.0	Borisov	Latvia	2010	0.0	Dombrovskis
Bulgaria	2011	0.0	Borisov	Latvia	2011	0.0	Dombrovskis
Czech Republic	2000	100.0	Zeman	Poland	2000	0.0	Buzek I
Czech Republic	2001	100.0	Zeman	Poland	2001	0.0	Buzek II
Czech Republic	2002	69.3	Spidla	Poland	2002	100.0	Miller
Czech Republic	2003	69.3	Spidla	Poland	2003	100.0	Miller
Czech Republic	2004	69.3	Spidla	Poland	2004	100.0	Miller
Czech Republic	2005	69.3	Paroubek	Poland	2005	100.0	Belka
Czech Republic	2006	0.0	Topolanek	Poland	2006	22.9	Marcinkiewicz I
Czech Republic	2007	6.0	Topolanek	Poland	2007	12.9	Kaczynski
Czech Republic	2008	6.0	Necas	Poland	2008	11.9	Tusk
Czech Republic	2009	6.0	Necas	Poland	2009	11.9	Tusk
Czech Republic	2010	0.0	Necas	Poland	2010	11.9	Tusk
Czech Republic	2011	0.0	Necas	Poland	2011	11.9	Tusk
Estonia	2000	32.0	Laar	Romania	2000	0.0	Vasile
Estonia	2001	32.0	Laar	Romania	2001	100.0	Nastase
Estonia	2002	60.9	Kalls	Romania	2002	100.0	Nastase
Estonia	2003	21.7	Parts	Romania	2003	100.0	Nastase
Estonia	2004	0.0	Parts	Romania	2004	100.0	Nastase
Estonia	2005	68.3	Ansip I	Romania	2005	12.4	Calin-Popescu Tariceanu I
Estonia	2006	68.3	Ansip I	Romania	2006	12.4	Calin-Popescu Tariceanu I
Estonia	2007	68.3	Ansip I	Romania	2007	0.0	Calin-Popescu Tariceanu II
Estonia	2008	16.7	Ansip II	Romania	2008	0.0	Calin-Popescu Tariceanu III
Estonia	2009	0.0	Ansip III	Romania	2009	48.9	Boc I
Estonia	2010	0.0	Ansip III	Romania	2010	0.0	Boc II
Estonia	2011	0.0	Ansip III	Romania	2011	0.0	Ungureanu
Hungary	2000	0.0	Orban I	Slovakia	2000	24.7	Dzurinda I
Hungary	2001	0.0	Orban I	Slovakia	2001	24.7	Dzurinda I
Hungary	2002	100.0	Medgyessy	Slovakia	2002	24.7	Dzurinda I
Hungary	2003	100.0	Medgyessy	Slovakia	2003	0.0	Dzurinda II
Hungary	2004	100.0	Medgyessy	Slovakia	2004	0.0	Dzurinda II
Hungary	2005	100.0	Gyurcsany I	Slovakia	2005	0.0	Dzurinda II
Hungary	2006	100.0	Gyurcsany I	Slovakia	2006	0.0	Dzurinda III
Hungary	2007	100.0	Gyurcsany I	Slovakia	2007	76.5	Fico
Hungary	2008	100.0	Gyurcsany I	Slovakia	2008	76.5	Fico
Hungary	2009	100.0	Bajnai	Slovakia	2009	76.5	Fico
Hungary	2010	0.0	Orban II	Slovakia	2010	76.5	Fico
Hungary	2011	0.0	Orban II	Slovakia	2011	0.0	Radicova
Lithuania	2000	13.1	Kubilius	Slovenia	2000	0.0	Bajuk
Lithuania	2001	45.9	Paksas	Slovenia	2001	83.3	Drnovsek V
Lithuania	2002	100.0	Brazauskas I	Slovenia	2002	83.3	Drnovsek V
Lithuania	2003	100.0	Brazaukas II	Slovenia	2003	84.5	Rop I
Lithuania	2004	100.0	Brazaukas II	Slovenia	2004	84.5	Rop I
Lithuania	2005	100.0	Brazaukas II	Slovenia	2005	6.9	Jansa I
Lithuania	2006	100.0	Brazaukas II	Slovenia	2006	6.9	Jansa I
Lithuania	2007	44.4	Kirkilas	Slovenia	2007	6.9	Jansa I
Lithuania	2008	44.4	Kirkilas	Slovenia	2008	6.9	Jansa I
Lithuania	2009	0.0	Kubilius II	Slovenia	2009	100.0	Pahor
Lithuania	2010	0.0	Kubilius II	Slovenia	2010	100.0	Pahor
Lithuania	2011	0.0	Kubilius III	Slovenia	2011	100.0	Pahor

Conclusion

Contents

1 Introduction

In this thesis I attempted to explain under what conditions some countries upgrade economically while others do not. I have done so by approaching two related research questions with an empirical focus on Central and Eastern Europe. First, I explained why the CEE countries have come to function at a relatively low skills equilibrium after becoming democracies and market economies. I argued that the relatively low equilibrium in production and training is a consequence of the developmental strategy embraced by the governments in the region - the unconditioned reliance on foreign capital, specifically on MNCs. Second, I explained how and why some of the countries considered have escaped this low-skills equilibrium. I argued that countries that have upgraded have done so by attracting MNCs to carry out more sophisticated activities requiring a higher level of skills. Governments in these "successful" countries bargained with MNCs to attract higher value-added activities and simultaneously incentivized students to invest in skills. This has contributed to improving their higher education systems. Moreover, the analysis of partisan tenure in government showed that investment in HE can be linked back to the socio-economic coalitions represented in government. My analyses show that Left-oriented governments tend to spend more on HE. This conclusion discusses the findings and the approach of the thesis in more detail as well as its implications to broader literature in comparative political economy and to Eastern European political economy.

Under what conditions do some countries upgrade economically while others do not? Despite broadly similar economic and higher education policies, the CEE countries have diverged from one another and, most importantly, have not caught up with the core OECD countries. *What factors best explain this divergence?* Then, each of the chapters analyzed the extent to which each of the institutions of interest in that chapter can partly explain the variation in HE policies and in the sophistication level of domestic firms. The link between chapters is assured by the fact that each of the chapters tries to explain the ways in which HE policies and the sophistication level of economies are linked. This is achieved by splitting the broad question into several more precise ones, as follows. Chapter I: Why is the Romanian HE in a state of apparent dissaray? Chapter II: Can the strong position of MNCs explain the low investment in skills provided by universities and the emergence of a low-skills equilibrium? Chapter III: Can the emergence of different levels

of sophistication in these economies be explained by different actions of governments regarding upgrading? Chapter IV: Can the the L-R orientation of governments explain some of the variation in higher education policies within and across countries?

These questions were approached by developing a theoretical argument and by testing its predictions over four empirical chapters, preceded by the introduction and followed by this concluding chapter. The core argument brought forward is that the key to understanding variation in higher education developments in the region and in each country individually is by accounting for the role of governments and of employers in jointly determining higher education policies. Moreover, I argued that HE developments can be well understood by relying on a model developed as a new variety of capitalism, the dependent market economy (DME). The DME model was previously defined by Nolke and Vliegenthart (2009) and is used in this thesis as a tool for explaining processes of skill formation in these transition economies. In this type of economy MNCs are the main employer for highly educated people and in most countries in Central and Eastern Europe MNCs do not need particularly high skills, which keeps these countries entrenched in a low-skills equilibrium. Some governments seem to understand these dynamics and to be able to counter-act by steering their economies on upward trajectories, inter-alia, by investing more in HE.

In other words, the thesis tries to explain, over the four chapters, the causes and consequences of HE development in a historical institutionalist context. It emphasizes the role of institutions in influencing outcomes. This thesis was the first extensive research on the political-economic determinants of higher education to focus on the new democracies in CEE, and even in a larger context, in developing countries and new market economies. This contribution is timely and relevant because it provides a new avenue for understanding the complex mechanisms of HE development and its governance. The insights gained while analyzing CEE can also help us understand HE in developing and developed countries. It also sheds new light on the role of transnational capital and its influence on skill formation in the region and on economic development more broadly. Moreover, the expertise on the evolution of skill formation in the region at the start of my research was extremely limited. Therefore, this research is almost by definition incomplete, as it is the first such study on skill formation in the region. This is the reason why I would also like to point out that an enormous challenge for this thesis was the paucity of data. The next stage of this research will focus on providing more comprehensive statistics on the relationships of interest, as detailed in

this chapter. Despite inherent limitations, the added value of this project is theoretical, empirical and methodological.

This introduction first explains how the chapters are connected and how they complement one another in shaping the argument of the thesis. I provide a description of the value added by this thesis, detailed by chapter. Then I present the methodological and theoretical contributions, in the second and third sections respectively. The fourth section acknowledges some caveats before concluding by placing the findings in a more generalized context.

2 Summary by Chapter

The first chapter and the second chapter entail an implied comparison of the CEE countries with their hypothetical more developed counterparts - or with the rest of the OECD. This is a comparison of the state of affairs in CEE in terms of economic sophistication and skills development with the alternative developmental trajectory as predicted by the most optimistic observers of the transition period (as summarized by Campos and Corricelli 2002). As Slater and Ziblatt (2013), convincingly argue, every research enterprise is necessarily comparative. Hence, even when focusing on one region, a comparison with other regions is implied. But the most important analytical exercise is the reliance on counterfactuals in the analyses in the first and of the second chapter. Questions such as, what would happen if governments invested more in HE and MNCs would not require such skills, or what would happen if MNCs left these countries, are all potential developmental avenues that are considered in the second chapter especially. The third chapter and the fourth chapter provide a comparison of the various countries within the region. The shifting comparative perspective between the first two and the latter two chapters provided fertile ground for empirical and theoretical exercises. They allow to explore the variation in higher education development in a relatively homogenous set of countries, as further detailed below.

Chapter I

The first chapter contributes to the thesis in numerous ways. First, while Romania is an interesting empirical case, observing HE in that country provided an opportunity to disentangle the role of skill formation in a less successful political economy. The case study of Romania was considered to be the least likely case for a DME and the most likely case for an economy characterized by a low-skills equilibrium. The chapter also highlights the role of the demand for

skills in determining the quality of HE. It explains how, despite the fact that any actor would be better off if more resources would be invested in skill formation, there are no real incentives for any of the actors to invest in better skills unilaterally. This low-skills equilibrium is defined in line with the work of Finegold and Soskice (1988). The chapter draws a bleak picture of a low-skills equilibrium DME, it shows the relationships that emerge between MNCs, governments and HE institutions. It argues that it is extremely difficult to change the reinforcing dynamics between institutions. It dwells deep into the types of relationships that emerge between actors and it shows how they are interlinked.

Second, the chapter is also an important cornerstone of the thesis because it provides insights into the incentives and preferences of a set of stakeholders - employers and academics, employees in NGOs, students - on the basis of interviews. How do students adapt to the perceived opportunities in the labour markets? How do managers of HE institutions and those of MNCs think of each other? What are the types of skills they provide and demand, respectively? The interviews revealed that each of the actors adapts to the envisioned strategies of the other actors. The interviews also suggested that actors rationalize but that their information is not always complete. This is the reason why students decided to invest in certain types of degrees while also working simultaneously. This comprehensive analysis of stakeholders provides some confidence that the hypotheses formulated in the case study and further analysed in the thesis account for a wealth of alternative explanations. In other words, the case study of Romania uses an inductive approach, it provides the ideal setting to formulate hypotheses. All these insights are later used in the thesis. It does so in a necessarily explorative setting. However, it would have been impossible to achieve such broad coverage otherwise. Not all of the hypotheses advanced in the first chapter proved to have been correct. The most interesting turn the thesis takes in the following chapters regards the determining role of political parties for the low-skills equilibrium. While political parties in government seem unable to change this equilibrium to a higher level in Romania, the following chapters prove that this is a possibility. However, reaching this conclusion was not possible by only focusing on Romania, but rather, by embracing a comparative approach.

Third, it provides an ideal setting for defining concepts to be used throughout the thesis. Most important of all, HE quality, while rightly defined by education specialists as complex (Harvey and Lee 1993), can be proxied for the large-n analyses by the indicator of funding/enrolment.

Some shortcuts such as these straightforward indicators are used in order to attempt to move from within- to across-case analyses, and from qualitative to quantitative approaches. This can be limiting for conveying complex arguments, but these complex arguments are better suited for qualitative approaches. Relying on these indicators allows to test for the generality of the findings. Therefore, the chapters following the first one rest on the insights gained from the analysis of Romania.

Fourth, the chapter focusing on Romania is the first political economic analysis of HE in the country and it is therefore almost by definition incomplete. It allowed me to understand the pecularities of the HE system and to acquire a clearer understanding of the detailed governance of HE. It allowed me to trace the process linking HE institutionalization to its political origin - the government. Fifth, a prerequisite for analytical narratives - such as those provided in the third and fourth chapters - was the detailed descriptions of processes largely unknown in political science literature, such as the evolution of HE, which are provided in the case study of Romania. The case studies of Hungary, Poland and Estonia are brief but they follow the same internal structure as the case of Romania.

All in all, the first chapter provides hypotheses and exploratory insights into the political-economic determinants of HE in a low-skills equilibrium DME. Moreover, it also shows that the actors involved in the interactions are relatively well-informed regarding the other actors' preferences.

Chapter II

The second chapter provides some empirical tests of the implications of the DME by analysing the hypothesized relationships within a larger quantifiable framework. While micro-foundations should ideally be explored for every set of actors hypothesized as relevant, the second chapter analyzes the micro-foundations at firm level. This is an essential validating empirical exercise and the first such test to be conducted on the empirical implications of a political economy model in the region to date (Frye (2010) explores microfoundations in a different theoretical framework). It provides a systematic analysis of firm-level data and distinguishes between MNCs and other domestically active MNCs. This chapter thus provides better empirical grounding for the model by showing that MNCs are more likely to employ highly educated people than similar domestic companies. The chapter also presents supporting data at country level on employment in MNCs

and on the relevance of FDI in a comparative framework.

But probably the important added value of this second chapter is its theoretical approach. It provides a more intuitive and structured diagram of the logic of the DME model, presenting it as a game of strategic interaction. This allows it to be understood by scholars across disciplines. The interactions leading to a low-skills equilibrium are presented in a stylized, simplified way. The next chapters allow for more complexity, showing that the active role of political parties can break this vicious cycle.

Chapter III

The third and fourth chapters move on to explore differences between countries in the region. The third chapter documents the change that has taken place, while the fourth chapter provides some explanations for the domestic drivers of this change: political parties. The most important difference in approach between the first two chapters and the last two chapters of the thesis is the role played by political parties. In the first chapter on Romania: this role is empirically insignificant, while in the second chapter this is considered to be irrelevant by construction, so through the way in which the model is set-up. That is a baseline model that is enriched in the following two chapters.

The third chapter highlights differences in activity between countries at the industry level. It adds one more level of detail to the empirical analysis - the sectoral level. Differences in terms of production and in terms of skill formation are analyzed. The chapter traces more carefully the processes that have led to an increase in the sophistication level of activities in some countries but not in others. I argue that an increase in the level of education spending is positively associated with the likelihood of countries developing higher value-added activities. In the case studies, I analyse this relationship and provide an illustration of the mechanisms that can drive the upgrading process. Most interestingly, the comparative case studies explore a most-similar and a most-different cases design. These analyses show that a government can have an active role in processes of upgrading from low- to high-skills equilibria and that a simultaneous increase in enrolment and in demand of highly educated people can lead to more sophisticated activities.

Chapter IV

Once it had been explained that change has occurred and that this is closely related to the role played by governments in these countries, the question naturally emerged of why some governments have been more committed to fostering economic upgrading while others have not. Can this be

explained by the nature of governments themselves, by their composition and by the types of parties present there, or is this at least partly explained by the structure of the economy? Or do governments invest in HE as soon as this seems likely to lead to positive consequences? In a more abstract way, this chapter tests an argument trying to distinguish between the role of the agency and of the structure in determining outcomes.

These competing explanations are tested in the fourth chapter, where I show that electoral politics can explain the differences in HE development. I employ statistical analyses and illustrative case studies to develop the argument that left-oriented governments have tended to spend more on HE in comparison to right-oriented ones independent of the structure of the economy. Right-oriented governments have tended to be more responsive to the structure of the economy when deciding on the ratio between enrolment and funding. The case studies provided focus on stories that are suggestive of the mechanisms at play.

The chapters build on various aspects of the argument and attempt to address the research question from different angles. Given the nature of the data and of the approach, some chapters focus more on exploring differences over time as potential explanations for change, while others are more focused on estimating relationships at given points in time and are thus more static. The last two chapters explore dynamics over time. The levels of analysis shifted from individual- to industry- and to country-level indicators. Hence, the second chapter aims to showcase a mechanism and to estimate statistically the relevance of MNCs as employers, while the chapter containing the comparative case studies is more interested in dynamics over time. The two approaches adopted complement one another as detailed in the next sections.

3 Methodological Contribution

3.1 Empirical Contribution

The discussion of methodology first mentions the empirical contribution of the thesis. Then, it moves on to explain the methodological approach. In some ways one could argue that the pre-requisite for theory is methodology and the prerequisite for methodology is data. Hence, the raw empirical findings are presented first, then I explain how these findings were reached and, in the next section, what this entire enterprise adds to the theoretical debates in the discipline.

The empirics covered in this thesis have previously been to a great extent unknown to political scientists and to political economists focusing on the region and beyond. I highlight three key findings that contribute to broadening the field, referring in turn to HE, MNCs and political parties. First, HE enrolments have increased significantly in the entire region, but the increase has been more pronounced in the social sciences than in other fields. Funding has not increased to the same extent as enrolment. Political parties on both the right and on the left of the political spectrum have allowed for an increase in enrolment, but increased funding has been associated with governments dominated by parties on the Left. Second, MNCs employ a larger proportion of highly educated people than similar domestic companies. MNCs tend to be more sophisticated and also larger than comparable domestic companies. They have also tended to move in and out of CEE markets with relative ease. The examples presented to support this have been drawn from Romania - where companies have moved to Bulgaria while continuing to use the Romanian market for distribution.

And third, governments dominated by leftist parties have tended to spend more on HE as a percentage of GDP than governments dominated by Right-wing parties. Nonetheless, the spending/enrolment ratio has tended to be less responsive to the sophistication level of the economy when Left-oriented governments were in power. Moreover, when analyzing what individual governments have done in each of the countries, the government headed by Donald Tusk in Poland has been particularly progressive regarding HE. Another particularly clearly identifiable policy regarding HE has been that of Viktor Orban, who has reduced spending on HE and has tried to stop the outmigration of fresh highly educated individuals.

Original data collection for the purpose of the thesis has been done as well. Interviews were conducted in Romania with a set of stakeholders. The perceptions of these interviewees were previously unknown, nor had these perceptions been interpreted in an appropriate framework before. Therefore, the empirical material stemming from those interviews is presented in order to explain the relationships that emerge between institutions regulating HE quality and the Ministry of Education, thus the government. The links between the governments and the different agencies for assurance of quality in HE are described in detail there and the perceptions of these stakeholders are considered in an attempt to explain these links.

Other aspects that had been unknown empirically and that should be further analyzed and

explored in future work are the different stances of political parties on policies towards HE. In Romania, the left-oriented social-democratic party has tended to favour increase in HE enrolment, while the right-oriented political coalitions have promoted policies to limit enrolment. These existing cleavages between political parties towards HE governance can be delimited empirically and can be found in several of the CEE countries, in Poland and Hungary, specifically. These are extremely interesting empirical patterns that can be relied on in future work on education policies. At the same time, the question that remains is whether these empirical patterns can be identified regarding other public policies as well.

Once some key empirical findings have been sketched, I explain in the next section how the methodological approach has aided theory-building and theory-testing and how this thesis has contributed to methodology in comparative politics.

3.2 Mixed-Methods Approach

While researching CEE is surely less cumbersome than work on the rest of the world except for the old OECD countries, nuanced research questions and precise hypotheses are difficult to tackle. Empirical data is not easily available, as has been pointed out in the previous section. At the same time, theoretical work on interesting questions in political economy is still limited. Therefore, much work needs to be devoted in order to contribute to both theory-building and theory-testing. Combining the quantitative and the qualitative approach allowed me to deal with this challenge. It was a compromise stemming from the lack of sufficient theoretical work in the area - hence an explorative qualitative approach was needed. The indicators of interest were also sparse, which was a further limitation on the quantitative approach. This means that the analyses provided in this thesis are necessarily less focused and reductionist than one would find in an entirely quantitative work and also less comprehensive than in a qualitative study (List and Spiekerman 2013).

More empirical work should be conducted on the implications of the DME model. I have tried to support the claims of this model with empirical evidence. However, this has been achieved only partially. I conducted systematic work on MNCs, relying on a survey of companies reported in the second empirical chapter. I interviewed an unrepresentative sample of stakeholders in Romania. At the same time, I provided in the third and fourth, empirical, chapters systematic analyses of country-level indicators aggregated at industry level. The third and the fourth chapter of the thesis

have moved away from portraying the relationships of interest in a DME framework but they are at heart a contribution ot the model. More such empirical tests can be conducted. This will be the aim of future research when turning the thesis into a book manuscript.

I have combined a comprehensive case study with statistical analyses of large-n data at different levels of analysis. I moved on to explore four other cases in a qualitative comparative comparison, shifting the level of analysis again from the individual to the sector and to the country-level. This type of exercise allowed me to advance a new theoretical model - the DME - whose predictions were also tested. Therefore, the relatively unexplored territory provided the opportunity for original work as it required a more innovative research design in order to grasp the processes of interest. I argue that this methodological approach should be embraced by scholars in the discipline and beyond. At the same time, while doing this research I have become aware of the weaknesses that can accompany each of these analyses. Some of these limitations can be overcome, while others are intrinsic to the approach. I draw attention to these two types of limitations.

3.3 Methodological Limitations

First, each of the methods has inherent weaknesses that have the potential to reinforce each other. For instance, if the hypotheses proposed using a qualitative comparison cannot be perfectly translated into a framework that allows the use of quantifiable indicators, this can weaken both approaches. The aim of using the quantitative approach is to validate the outcome of the first approach. If the quantitative indicators are imprecise and the validation exercise is not successful, then the reasons for this can be various. Therefore, an initial formulation of the third chapter also used quantiative analyses that were dropped because of this reason. The choice was made to strengthen the case studies instead by relying on a most similar and a most different case analyses. This increased my confidence that the inferences drawn from the analyses were correct.

Second, the weaknesses of the methods can be overcome by relying on another research technique. For instance, the third and the fourth chapters have been written in tandem and the insights gained from the case studies were subsequently tested in the 10-country sample to test their generalizability. This allowed me to improve the analyses in each chapters and to increase their accuracy. This was an instance in which relying on two different methods provided me with the opportunity to not only cross-validate the findings but to also improve their precision.

I would also like to point out another way in which the methodological approach of this thesis has been limiting. Reconciling the holistic view on political economic developments of the varieties of capitalism literature with the individualistic approach of "scientific realism" (Keohane 2009: 39) can only be partially achieved in a contribution such as this thesis. List and Spiekermann (2013: 629) identify this divide in political science "between methodological individualists, who seek to explain political phenomena by reference to individuals and their interactions, and holists (or nonreductionists), who consider some higher-level social entities or properties such as states [...] causally significant."

Increasingly more attention is being devoted to issues related to causal inference in political science literature (following Angrist and Pischke 2008). This has moved towards becoming the standard in making research in the discipline more reliable and precise. Therefore, more work can be conducted in improving this thesis by trying to isolate more clearly the causal effects of institutions on public policies. I will highlight here one such area in which research can be improved in order to better capture causal effects rather than systematic associations. I have shown in the last empirical chapter of the thesis that left-oriented parties tend to spend more on HE. This association can be causal, but it is not so neccessarily. A good way to test whether this is a causal association is to conduct more analyses at the constituency-level and to exploit a regression discontinuity design in very close elections, for instance. Future work will aim to test the L-R dichotomy at the local level in order to account for causalities.

Another way to test for causal effects would be to rely on other types of data than purely observational one. Experimental data, using both surveys and field experiments can be another good way to test the magnitude of the causal mechanisms proposed in the thesis. Once more data becomes available, more sophisticated statistical techniques can be applied as well. All these methods have their own limitations as well, but they can be used complementarily to the approaches embraced by this thesis. Despite some inherent limitations, this mixed-methods approach has allowed me to contribute to literature as further detailed below.

4 Theoretical Contribution

4.1 Skill Formation

One of the main contributions of the thesis is the analysis of skill formation processes in transition economies. In the European context, little had been known about the capacity of the CEE political economies to produce human capital. Therefore, tackling the questions and puzzles concerning higher education development in CEE could rely only partially on existing academic research. Here I would like to draw attention to the varied scholarly contributions that have been used in the thesis and the ways in which this thesis has contributed to their development.

One rather unusual source for a comparative political economy contribution has been the work of scholars of the education sciences that this thesis drew heavily on. Voldemar Tomusk's work has been an important source for understanding processes of HE reform in the region (Tomusk 2000).[1] At the same time, numerous studies, each focusing on small areas of HE policy and governance, were relied upon in an attempt to understand facts and perceptions of HE development (Galbraith 2003). I abstracted from this work and reinterpreted many of the claims in my attempt to explain the political economy of HE development. I showed that the HE system, as a bureaucratic apparatus, does not always function in an efficient way to transform inputs into outputs.

Portraying it in a broader perspective, the entire literature on skill formation rests on the work of Gary Becker (1960) and his analyses of human capital and education. In these approaches human capital is treated on par with physical capital. Historical institutionalists such as Thelen (2008) identifies and explains the embeddedeness of training systems in the national political economic models. This thesis follows in these footsteps and explains how the production of skills, especially of advanced degrees, such as those offered by higher education institutions, is also embedded in the national political economies of CEE. It explains how HE institutions are intertwined with the structure of the economy, similar to what Thelen identifies at the level of vocational training. Thelen (2004) explains cross-national differences in training systems by developing an argument about political coalitions that determine outcomes and she links that to the settlements achieved in the early industrial period between three critical groups: independent artisans, skilled industrial

[1] Tomusk was the director of the Education Department at the Open Society Foundation, based in London since the beginning of transition until 2010.

workers, and employers in skillintensive industries. These settlements were heavily mediated by state action (or inaction), which either facilitated coordination, both among firms and between unions and employers, or not. In this thesis, I explain how state action can facilitate coordination between institutions demanding and supplying skills in an emerging democracy and market economy as well.

But most importantly, I argued that HE provides an ideal entry point towards understanding broader political economic processes. This analysis of skill formation as an adequate way to explain broader political economic processes is heavily inspired by the literature on varieties of capitalism in its broadest interpretation. There (Hall and Soskice 2001 being one example), explaining education processes facilitates the understanding of broader coordination mechanisms between institutions, be they those providing vocational training or higher education (Busemeyer and Trampusch 2012). This literature is enriched by this thesis not only by its different geographical focus, but most importantly, by the fact that it shows that the relationships identified between institutions in other contexts do not need to hold universally. I showed, for example, that HE enrolments and financing do not need to be correlated, as commonly assumed in political economy scholarship (Ansell 2010, Busemeyer and Iversen 2014). Moreover, I showed that HE institutions play a similar role to vocational training in a political economy, but even more importantly, that HE is essential for economic upgrading.

While HE is famously different from other welfare state institutions, such as pensions or unemployment, broader theoretical implications can be derived from here that can be used in analyses of other welfare policies. Political parties and MNCs are likely to have strong effects on other state policies in Central and Eastern Europe too. Nevertheless, the incentives of the individual actors vis-a-vis any of these other policies will be different and the insights gained from analysing HE can be transferred to other areas only cautiously. Therefore, one important lesson that can be learned from other policy areas is the fact that individual incentives will likely influence public policies and that political parties and MNCs need to be taken into account in any analysis of policy in CEE.

Other than contributing to existing scholarship on skill formation, this research adds to literature on historical institutionalism broadly construed. It explains institutional change in a set of countries about which not much was known by focusing on how firms and institutions of skill formation can coordinate in order for firms to be able to produce higher value-added goods and

services. This is explained into more detail further below by first explaining the starting point of the analysis.

4.2 Institutional Change

The thesis shifted between highlighting commonalities and differences between these 10 CEE countries. While arguing that they are all dependent on FDI, while initial conditions were largely similar across the region and while all these countries have registered economic growth and explosive HE enrolment rates, the skills produced by the higher education institutions in each of the countries today, have registered important variations that needed to be explained. Existing theoretical approaches seemed partly suitable but partly unsuitable to explain these developments. Therefore theories, such as the DME model itself, were unravelled and redesigned (Noelke and Vliegenhart 2009). I have argued that mutually reinforcing relationships link education, employment and politics. It emerged from the empirics analysed that complementarity between these institutions are sustained by the incentives of different actors that adapt to the perceived opportunities in the labour market.

I argued that institutions are inter-related within these generally stable DMEs. Hence change will not emerge easily given the reinforcing equilibria sustained by the different actors. The research has shown that incremental change can take place if governments have the capacity (or the will) to foster it. A configuration of factors coordinated by political parties - MNCs and HE coordinated in a predetermined direction - can lead to change, and to superior (or inferior) equilibria. Moreover, political parties, as assumed in this thesis, do not act out of their own will, but are linked to voters. Their representation function is thus considered essential in this research, building on extensive literature on voting behavior (Whitefield and Loveless 2014, for example). If voters express demands on their government regarding education, this has the potential to foster institutional change, such as economic upgrading. Institutional cooperation can also be a source of change. Hancke (2012) has shown that chambers of commerce can play an important role in collective skill formation by solving coordination problems. Moreover, the varieties of capitalism literature considers labour relations as causally relevant and this should be further explored in the DME framework.

Individual incentives of voters can change if their socio-economic status changes, if they envision their chances in the labour market to improve if the government in power enacts different types

of policies. Therefore, this is likely to change the expectations voters form towards the party representing them. This is likely to change the behaviour of parties as well and it is likely that the policies towards MNCs and towards the governance of HE will change as well. This has the potential to lead to institutional change. This is a highly simplified version of reality, but it shows the process that can lead to institutional change in form of upgrading in a CEE country. This mechanism leading to institutional change has been identified and explained into detail in the third and fourth chapter of the thesis. Most interestingly, the thesis has tried to explain how intentions of governments have translated into outcomes. Thus, it has portrayed a world in which institutions exist do not exist because of the functions, but rather as an outcome of individual incentives.

Certainly, these institutional complementarities characterizing a dependent market economy are not expected to be perfect, either at the theoretical level or empirically. Another source of change in these political economies can be the mismatches at different points in time and at different levels of analysis between actors. One instance in which intentions and actual outcomes has been when students free-rided on the option to receive a scholarship to study technical subjects in Poland as explained in the case studies in chapters III and IV.

4.3 The Role of Domestic Institutions in Development

This thesis argued that the role that MNCs play in development is highly dependent on the domestic conditions in the destination countries. This is almost ironical, given that the thesis started by claiming the importance of international capital for these economies and how (unilaterally) dependent they are on this capital. But, as this thesis has found, domestic institutions have the capacity to determine outcomes. I argued for bringing the state back in (Schmidt 2009) by highlighting the role of political parties in government in economic development. The case study of Romania has shown that political parties do not play a role. Nonetheless, this has been the case because some domestic circumstances have prevented them from being more active - most likely some factor related to their constituency. Therefore, it can be the case that political parties in government play a marginal role, but this was an empirical data point rather than a theoretical expectation of this research. All in all, this thesis has argued that integrating research on the political composition of governments can shed new light on the developmental premises of these economies. This was a rewarding, though risky exercise given that many parties in government were found not to have

contributed to HE development.

I attempted to theorize the role of political parties and subsequently to measure their influence on HE policy, thus contributing to the field more broadly (Busemeyer and Trampusch 2011, Estevez-Abe, Iversen and Soskice 2001). Significant and extremely valuable work had previously been conducted on the emerging political systems in the region (Grzymala-Busse 2002, Pop-Eleches 2009, Tavits and Letki 2009). However, in no comparative political economy or economic sociology work have scholars given political parties and higher education as much credit as this thesis does. An exemption was Frye (2010) who had shown that the political nature of governments can influence economic growth and that this is unrelated to geography. He argued that the political polarization of parties (between anticommunist factionand ex-communist ones, for instance) is detrimental to economic growth. Hence, he identifies political parties as being important for economic growth. He argues the incentives of firms are influenced when parties are polarized between pro-reformers and anti-reformers. This contribution adds to this work while providing a different causal mechanism linking political parties to economic growth. The relevance of political parties in economic development can certainly be explored much more in future work. This thesis should be understood as a way to explain the political determinants of HE development.

5 Future Research

The introduction has shown how other explanations for the puzzles identified in the research can be valid theories to tackle these outcomes. Then, the different chapters of the thesis weighted alternative explanations against the arguments and sub-arguments advanced in the thesis. Thinking about the way in which an alternative world would have looked like has been in the background of this thesis all along. What are the alternative scenarios you can imagine? In the quantitative work this was the null-hypothesis and the control variables that stemmed from the qualitative work. In the following I summarize how some institutions have been likely to influence the enrolment and funding levels in HE in CEE and the types of MNCs that enter these economies. The effect of these institutions have been partially considered here and I suggest some avenues that can be fruitful for future research.

First, the role of the EU and of migration in these economies should be further considered. I argued that parties in government can play a role in facilitating upgrading through the influence it

can have on HE and on MNCs. However, the European Union can be a facilitator of change as well, as Bruszt and McDermott (2012) and Hughes et. all (2004) have shown. The process of European integration is likely to determine governments to adapt their strategies and to foster upgrading. The expectation is that this will affect governments equally, but this can be tested empirically.

Second, the level of integration with the EU, which is strongly correlated with the distance from Brussels, also plays a role in the capacity of these economies to upgrade. Bohle and Greskovits (2012) refer to CEE as a "periphery", implying a geographical distance from a centre. It would therefore be interesting to test some spatial econometrics models when attempting to explain why some countries have been more successful than others in devoting resources to HE. The level of integration with the EU can be measured as the time since countries have been EU members, or as membership to the Eurozone.

Third, I also want to highlight that to some extent every historical period is exceptional. Many studies focusing on the time-frame after 2008 refer to the economic crisis as a potentially exceptional period. The data in the thesis covers these data points as well. Therefore, in order to be able to identify some general patterns that can explain developments in a very broad sense, more data will be needed covering a series of exceptional developments - including economic crises and periods of economic prosperity.

Fourth, one sould look into the preferences of voters with regard to HE funding and enrolment and whether and how this is mediated by the employment status and the income level of voters (Gingrich and Ansell (2014) focus on OECD data; Hausermann, Kurer and Schwander 2014 focus on the vulnerability of highly skilled and the preferences that derive herein). A fifth aspect that has been bracketed out is the impeding role played by corruption. Political parties may not represent their voters as unequivocally as assumed in this thesis, as argued by Mares and Petrova (2013). I have disregarded the role of the black market and the lack of accountability of political parties to their voters.

All in all, this is a contribution to development literature concerning how some countries manage to improve their economies while others do not. Using the case of CEE, this thesis draws broader theoretical conclusions about countries leaving state-centred models. It presents a theory concerning dependent development and countries attempting to catch up. It contributes to central debates in political economy and comparative politics by analysing the role of MNCs, of higher education

and equally importantly, of political parties in economic development. It shows mechanisms and relationships that have the potential to explain other contexts. Therefore, the scope-conditions of the theory can be broadened to refer to the transition from totalitarian regimes in North Africa, Central Asia or Eastern Europe.[2]

6 Broader Implications

These concluding remarks offer an empirical assessment of the extent to which the argument advanced in this thesis focusing on the political-economic determinants of higher education in CEE can inform public policy in the countries analyzed and scholarly work in the field.

First, the analysis of the countries of CEE has the potential to explain processes taking place outside of this context. When thinking about how the lessons drawn from here can be transposed, this should be done with caution. Higher education in CEE is characterized by the specificities outlined in the thesis and the perfect transposition of the findings to describe other countries can be missleading. The most interesting insight gained from here is the careful analysis of individual incentives determining processes of skill formation. This is a valid exercise that should be done more generally. Therefore, questions about incentives structures should be asked with reference to other contexts in both the field of skill formation as well as more generally regarding public policies.

The insights gained while doing this exercise focusing on contemporary developments in CEE are new. This thesis advances a new analytical narrative about HE in the region. It explains evolutions of enrolment increase and of the variation in HE funding and it explains how voters, MNCs and governments influenced HE even in contexts where this seemed difficult to influenced. Now, this is a start to think about HE in a more nuanced way. We did know a lot about differences between countries. And we would like to further explore and emphasize these differences.

This is the first contribution in political economy in CEE to be taking the role of human capital formation seriously. This is an important topic that cannot be possibly dealt with in a satisfactorily fashion in a single contribution. More work should be conducted on these topics. At the same time, while this thesis has put a strong emphasis on higher education, other institutions

[2]Transition economies in Central Asia and Eastern Europe are listed in order of the magnitude of their FDI flows in 2012. (UNCTAD, World Investment Report, 2013): Russia, Kazakhstan, Ukraine, Turkmenistan, Azerbaijan, Belarus, Croatia, Uzbekistan, Albania, Georgia, Bosnia and Herzegovina, Montenegro, Armenia, Kyrgyzstan, Serbia, Tajikistan, Republic of Moldova, Macedonia.

do play an important role and their functions should not be downplayed. Vocational training is complementary in many ways to higher education. Higher education developments are in many ways a cause and a symptom.

At the same time, this is an important contribution that is taking the role of political parties seriously in new democracies and market economies. Moreover, if it is indeed the case that political parties in government pursue different policies regarding HE, will this influence other sectors as well? If the resources that the government has at its disposal are limited, then one expectation is that political parties will also have different effects on other sectors, such as defense, or healthcare.

Second, some lessons can be drawn by policy-makers from the analyses here. While much discussion in the policy area has been devoted to input indicators on HE reform in transition economies and elsewhere, one bold implication of this thesis is that reforming HE cannot be achieved by only targeting HE. The thesis argues that the way in which incentives work at the individual level requires a coordinated effort of employers and employees to improve HE. In other words, if the government decides to improve HE and the (potential) students do not find reasons to invest in HE, then this will not suffice for HE to improve. We cannot expect the HE sector to outperform the economy given the complementarities described in the thesis. Moreover, in the specific cases of CEE, the governments have higher chances to improve their human capital formation if they negotiate with MNCs to conduct more sophisticated activities in the domestic economies.

Important empirical work has been conducted on these topics and much of this work has been descriptive. This research, on the other hand, is analytical. And once more time has passed, these questions can be asked again. I n the same way in which work has been done interested in historical democratization, this thesis is also a contribution to more recent historical democratization and marketization. So, while other work is already considered passe, this might not be the case at all. This contribution has added to scholarship on Eastern European politics and to the literature on skill formation and on the link between skills and development. This thesis has tried to improve understanding both empirically and theoretically.

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