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State expenditures and varieties of capitalism in East Central Europe

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ABSTRACT
The paper contributes to the debate on how capitalist varieties have changed in East Central Europe (ECE) after the 2008 crisis by applying cluster analysis to government expenditure in 10 ECE countries. The analysis compares the periods 2000–2007 and 2011–2019 and identifies four stable clusters: neoliberal, liberal developmental, embedded and embedded developmental, with most countries showing stability with minor changes. Only two countries, Poland and Hungary switched groups, moving from the embedded developmental cluster to the embedded cluster after the crisis. The paper argues that the changes in Poland and Hungary cannot be seen as stability or a shift towards a post-socialist developmental state. Instead, both countries have experienced an illiberal shift in the redistribution of state resources, showing an internal reallocation of expenditure towards economic affairs, recreation, culture and religion, and family and child benefits. However, the illiberal shift is less pronounced in Poland. These findings highlight a deviation from the path taken by other ECE countries and underline the unique trajectories of Poland and Hungary.

KEYWORDS
Role of the state; state expenditures; varieties of capitalism; EastCentral Europe; cluster analysis; illiberalism

1. Introduction

After the 2008 financial crisis, a new debate has emerged in the comparative capitalism (CC) literature on how the crisis has affected the varieties of capitalism in EastCentral Europe. In particular, Poland and Hungary have become the focus of CC research due to their significant political turnarounds. There are different interpretations of these changes. Some authors point out that the economic model has remained unchanged, preserving the previous dependent market economy model and the neoliberal competition state (Bohle and Greskovits 2019; Bohle and Regan 2021). Others, however, argue that there has been a major neo-developmentalist shift, aimed at moving beyond the previous dependent economic model (Bluhm and Varga 2019; György and Oláh 2019; Rogers 2019).

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This paper contributes to this debate by analysing changes in government spending to assess whether these changes are consistent with a changing model of capitalism in the region. The analysis of public spending can thus be seen as a kind of litmus test for the interpretations that appear in the literature. If the structure of public spending remained stable, there is a risk that the importance of rhetorical change is overstated in the literature, leading to misinterpretations.

By analysing government spending, the paper aims to enrich theoretically the CC literature, which has yet to include the state as a critical actor in shaping development outcomes. As Bohle and Greskovits (2009) point out, the traditional literature on varieties of capitalism focuses on firms and does not explicitly deal with the state. Moreover, the emerging growth model approach also neglects the role of the state (Bulfone 2023). This makes it worthwhile to integrate the analysis of the state into the CC literature, and public expenditure can be a good starting point. Therefore, the paper draws on theoretical approaches that have paid more attention to the study of the state, mostly relying on the Polanyian typology of Bohle and Greskovits (2007, 2012).

The paper takes a multifaceted approach. The first empirical chapter is a comparative cluster analysis for the whole region. The paper compares two periods (2001–2007 and 2011–2019) and evaluates 10 ECE countries[1] on the basis of public expenditure classified as development and welfare expenditure. The cluster analysis defines four different groups in the region: neoliberal, liberal developmental, embedded and embedded developmental, which have remained stable even in the post-crisis period. Thus, the analysis shows that stability can be observed in most countries after the crisis. At the same time, a cluster change is observed in the case of Hungary and Poland, which is why a detailed descriptive statistical analysis was conducted of these two countries' public expenditures in the second part of the empirical research. On this basis, it becomes clear that the examination of public expenditure in the case of Hungary and Poland does not support the interpretation of either stability or a shift towards a developmental state. Instead, the data show the rise of illiberal redistribution of state resources.

The novelty of the article lies in its use of comparative cluster analysis, which simultaneously captures the diversity of the region and the directions of change. It provides a region-wide investigation that goes beyond the limitations of case studies and is embedded in an in-depth theoretical background. The results offer a new grouping for the region and a new perspective for understanding the EastCentral European varieties of capitalism.

The paper is structured as follows. First, it examines the varieties of capitalism and the role of the state in post-socialist countries before and after the 2008 crisis. The empirical part conducts a cluster analysis for the whole region and provides a detailed examination of Poland and Hungary. This is followed by a discussion section analysing the findings. The final section concludes the study and suggests possible avenues for future research.

2. Post-socialist varieties of capitalism before and after the 2008 crisis

2.1. Before the 2008 crisis: dependent market economy and neoliberal competition state

After the regime change, East Central European countries developed a specific form of capitalism that Nölke and Vliegenthart (2009) call dependent market economy

(DME). DME is characterized by an extreme dependence on foreign capital, which affects key institutional aspects such as coordination mechanism, industrial relations, corporate governance, investment financing, education and innovation. Transnational corporations (TNCs) dominate these economies, leading to flexible labour markets, weak trade unions and firm-level collective bargaining. Investment is often financed by loans from foreign-owned banks, leading to high levels of financial dependency (György and Oláh 2019). This dependence also affects education and innovation, as governments cut taxes to attract foreign capital, limiting spending in these areas and leading to imitative innovation. As a result, the comparative advantage of dependent market economies lies in the performance of standardized, assembly-type activities.

The DME approach does not address the role of the state in detail, but the missing link can be found by stepping outside the traditional VoC literature. Drahokoupil (2009) and Scheiring (2020) describe the countries of the region as FDI-dependent or neoliberal competition states, where the attraction of foreign capital creates strong dependency. These definitions allude to the ideas of Cerny (1997), who argues that the collapse of the Western welfare state leads to the rise of the competition state under neoliberal capitalism. Post-socialist states compete to attract foreign investment, resulting in low wages, low corporate taxes and flexible regulations that make it difficult to finance the welfare state (Drahokoupil and Piasna 2019). As such, these states exemplify the neoliberal competition states of the pre-crisis period.

Despite the similarities, neoliberal competition states differ in terms of social embeddedness and welfare spending. Bohle and Greskovits (2007, 2012) identify two types of neoliberal states in the ECE countries. First, the neoliberal Baltic model with minimal state and welfare involvement. Romania and Bulgaria are also neoliberal, but have weaker states than the Baltic countries. Second, the embedded neoliberal model of the Visegrád countries (Hungary, Poland, Czech Republic, Slovakia) with higher welfare spending and state involvement. They also identify a third category, the neo-corporatist model of Slovenia, with a generous welfare state and corporatist balancing of interests, which is not even considered neoliberal.

2.2. After the 2008 crisis: changes and interpretations

The financial crisis of 2008, triggered by the collapse of the US housing market and the subprime mortgage crisis, led to a global economic downturn . Governments around the world stepped in with bailouts and stimulus packages to stabilize the financial system. The crisis led to a global recession characterized by a sharp fall in global GDP of −1.8%, rising unemployment and a 9.9% contraction in international trade, which affected economies around the world, but most severely those that were heavily dependent (Koh and Yu 2020).

The crisis of 2008 therefore posed a major challenge to the dependent market economies and neoliberal competition states of the ECE countries. The crisis has prompted three major changes in the region: change in economic ideology, a strengthening role of the state and fragmented changes in social embeddedness.

2.2.1. Emergence of illiberalism

In the aftermath of the 2008 crisis, a new economic ideology emerged in the region. Hungary and Poland moved towards a heterodox economic ideology, mixing neoliberal and post-neoliberal views (Toplišek 2020). Bluhm and Varga (2019) argue that this has evolved into a conservative-illiberal ideology created by think tanks (Buzogany and Varga 2018) that emphasizes traditional family values and national identity over individualism and Western-style welfare states (Lendvai-Bainton and Szelewa 2021; Szikra and Öktem 2023).

Bluhm and Varga (2019) identify two main elements of this new ideology: the state as a developmental actor, and conservative-illiberal redistribution based on conservative values. The former draws on the example of the East-Asian developmental states. For example, Polish Prime Minister Morawiecki (2016, 1) emphasized that *"our new industrial policy for identifying the sectors of the future is modelled on that of the Asian Tigers"*, but the Hungarian Prime Minister also frequently refers to the East-Asian model (Szentkirályi 2016).

Illiberalism also appears in the Czech Republic and Slovakia, albeit less dominantly (Guasti and Bustikova 2023; Scott 2022), and influences the political discourse in Romania and Bulgaria (Ban 2019; Rone 2023). Nevertheless, the neoliberal commitment of the Baltic states is not weakened (Csaba 2023). The austerity measures that unfolded after the crisis did not lead to radical changes, but rather helped to further consolidate the neoliberal model (Aidukaite 2019; Juska and Lazutka 2019). In Slovenia, on the other hand, the neo-corporatist model was weakened and the country moved towards neoliberalism (Podvršič 2018). However, Hungarian illiberalism has also influenced Slovenian politics (Delić 2020).

2.2.2. Strengthening role of the state

The new ideology relies heavily on the concept of the developmental state, leading to a strengthening role of the state in reducing dependencies and supporting the domestic economy. An important realization of this is the policy of selective nationalism in Hungary, which led to the nationalization of key sectors such as finance, energy and telecommunications, and distinguished between export-oriented (good) and service-oriented (bad) FDI (Bohle and Greskovits 2019; Bohle and Regan 2021). This strategy aimed to support the domestic capital class, which was disadvantaged by the dependent market economy model (Scheiring 2020).

Selective nationalism reduced dependencies, particularly in the financial sector. Romania reduced financial dependencies by creating a sovereign wealth fund and a national development bank to increase ownership of the domestic banking sector (Ban 2019). Hungary taxed the financial sector, increased domestic ownership and transformed the National Bank into a development bank, a process known as financial nationalism (Johnson and Barnes 2015; Sebők and Simons 2022). Poland's comprador managerial class supported the nationalization of the banking sector, reinforcing the idea of the developmental state (Naczyk 2022). In contrast, the privatization of the Slovenian financial system increased under European banking governance (Piroska and Podvršič 2020).

However, state intervention is realised not only through the channels of ownership and regulation, but also through a more active industrial policy (Sass and Vlckova 2024). This, of course, fits into the wider resurgence of interest in industrial policy in the global economy (Trautmann and Vida 2021).

This new industrial policy relies heavily on targeted economic development strategies. Estonia, for example, is breaking out of the dependency trap by supporting the ICT sector, increasing spending on innovation and improving the quality of education (Győrffy 2022). Poland's Morawiecki Plan is also an example of a state-led economic strategy focused on re-industrialization, supporting flagship projects, public R&D institutions, promoting innovation and increasing industrial capacity (Bluhm and Varga 2019).

Another strategy to reduce dependence is to increase interdependence, making foreign capital dependent on regional revenues and thus giving it a stake in the success of the region. For example, Romania's innovation policy has meant a high level of government support for foreign companies engaged in innovation (Ban 2019). The diversification of sources of dependence also emerged after 2008, when Western capital was complemented by Chinese investment, such as the Budapest-Belgrade railway project in Hungary (McCaleb and Szunomár 2017; Rogers 2019).

2.2.3. Fragmented changes in social embeddedness

The post-crisis period resulted in fragmented changes in social embeddedness. The Baltic states strengthened neoliberal policies with minimal changes in social security (Aidukaite 2019; Juska and Lazutka 2019). However, Avlijaš (2020) nuances the neoliberal character by highlighting the social investment strategy of the Baltic states, represented by high investments in education and relatively generous labour market policies.

In contrast, the rise of the new illiberal ideology after the 2008 crisis in Poland and Hungary has led to a conservative-illiberal redistribution with a focus on family values and pro-natalist policies (Stubbs and Lendvai-Bainton 2020; Szikra and Öktem 2023), which is reflected in the family tax allowance in Hungary (Szikra 2019) and the Family 500+ programme in Poland (Bill and Stanley 2020). Another important feature is de-secularization, leading to a strengthening of the role of the church in social policy (Lendvai-Bainton and Szelewa 2021). Moreover, the new redistribution is strongly in favour of pensioners and the middle class (Raț and Szikra 2018). Nevertheless, there are also significant differences in redistribution between Poland and Hungary. The Polish policy has reduced child poverty and there is a clear need to guarantee access to basic services for all (Bill and Stanley 2020; Bluhm and Varga 2019), while Hungary, with the concept of the work-based society, has significantly reduced welfare spending (Bohle and Greskovits 2019).

Neo-corporatist Slovenia implemented austerity measures, but eased spending cuts during the recovery (Hrast and Rakar 2019). Moreover, at the same time, the limited impact of conservative-illiberal redistribution was already visible in the COVID crisis management, with a stronger pro-natalist agenda, but with a greater emphasis on poorer families (Bohle et al. (2022).

2.2.4. The main interpretations: stability, developmental state or accumulative state?

The post-crisis changes are interpreted in three ways. The first group of scholars interpret the changes as steps towards a developmental state. For instance, Bluhm and Varga (2019) argue Hungary and Poland shifted towards a conservative developmental state.

Rogers (2019) highlights high Chinese investments and the Budapest-Belgrade railway project as ways for Hungary to adopt a state-led market economy model. Toplišek (2020) notes these governments pursue heterodox policies to reduce dependency, with Hungary aggressively nationalizing due to its high dependency and Poland having a more coherent developmental policy.

The second group of scholar interpret the changes as stabilizing and strengthening the dependent market economy and the neoliberal competition state. Bohle and Greskovits (2019) and Bohle and Regan (2021) see Hungary's changes as rhetorical, maintaining the embedded neoliberal character dominated by multinational pressure. Éltető and Medve-Bálint (2023) demonstrate that, in Hungary and Poland, post-crisis state aid policies have primarily been used to maintain and strengthen existing growth models rather than initiate significant structural changes. Ban (2019) notes Romania's efforts as minor adjustments without moving towards a developmental state. Bohle (2018) highlights the continued dependence on FDI, EU funds and remittances. Aidukaite (2019), Csaba (2023) and Juska and Lazutka (2019) confirm the stability of neoliberal features in the Baltic states.

In addition to the two interpretations mentioned above, a third view is that there have been fundamental changes in the capitalist systems of the ECE, but that these have led to a new model of dependency rather than a developmental state. This view is often applied to Hungary, describing it as a mafia state or a rentier neo-patrimonial state (Magyar 2016; Sallai and Schnyder 2018; Szelényi and Mihályi 2019). Moreover, Scheiring (2020) describes the transition from a competition state to an accumulative state, where external dependency is maintained and national capital is strengthened, but does not support catching-up or becoming a developmental state. The Figure 1. presents the changes and their interpretations.

3. Analysing conflicting interpretations using state expenditures

3.1. Research question and interpretations

The interpretation of changes in the neoliberal competition state after the 2008 crisis has been the subject of considerable debate. This paper uses public spending as a litmus test to assess these conflicting interpretations. Government expenditure is a good proxy for assessing the strengthening role of the state and changes in social embeddedness. The research question is: Which interpretation is confirmed by the change in government spending? The paper proposes two mutually exclusive interpretations based on the literature and seek the minimal conditions for rejectiion.

According to the first interpretation, a shift towards the developmental state could be observed after the 2008 crisis. To find the minimal condition for rejecting the first interpretation, it is worth drawing on the literature on developmental states. Classical developmental states in East-Asia were characterized by state coordination, meritocratic bureaucracy, social consensus, promotion of long-term savings, export orientation, control of the financial system, selective sectoral support and strong support for education (Johnson 1982; Ricz 2017; Wade 1990; Woo-Cumings 1999). However, the creation of the classical developmental state required specific conditions that cannot be replicated

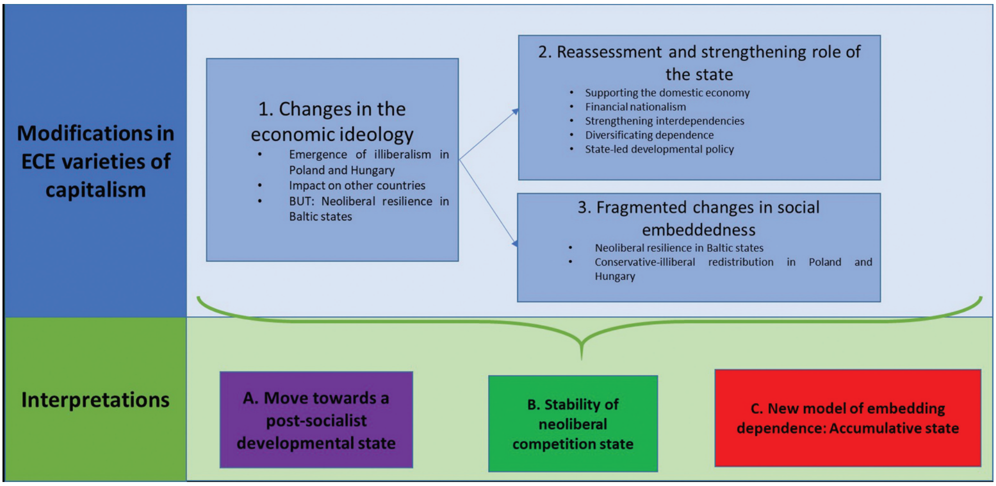

Figure 1. The changes after the 2008 crisis in ECE varieties of capitalism and their interpretations; source: own elaboration.

elsewhere (Onis et al. 1991), and the model declined in the 1990s due to global economic changes (Benczes 2002; Woo-Cumings 1999).

However, the post-2008 period has seen a revival of the developmental state paradigm to adapt to the challenges of the 21st century (Gerőcs and Ricz 2021; Hsu 2018; Routley 2012; Williams 2014). Modern developmental states focus on human capital development, R&D, innovation, promotion of domestic savings, foreign market orientation and proactive bureaucracy (Ricz 2016). Apart from these commonalities, local circumstances are crucial in defining new developmental states (Routley 2012; Williams 2014). Therefore, a neo-developmental state in post-socialist regions may differ from other parts of the world.

In order to adapt it to the conditions of the EastCentral European region in the 21st century, it is worth drawing on Aiginger's (2018) model. Based on Aiginger (2018), the pre-crisis dependent market economy (DME) can be described as a low-road strategy driven by foreign capital, low wages and taxes, leading to harmful competition between states. The transition away from the DME model requires the adoption of a high-road strategy focused on human capital, education, and innovation. The works of Aiginger (2018) and Ricz (2017) suggest that a break from the DME and a shift towards a developmental state should be characterized by a focus on education and R&D. These elements are necessary, but not sufficient, for the establishment of a 21st century developmental state in the post-socialist region. Therefore, if there is stagnation or decline in education and R&D expenditure, the first interpretation can be rejected.

The second interpretation argues that there was stability after the crisis, thus the neoliberal competition state was maintained. In this case, the structure of expenditure should be stagnant. It also means that there is no change towards either a developmental state or a more socially embedded model. The conditions for the former have already been mentioned. For the latter, welfare spending should be analysed because it can show whether there has been a reversal of neoliberalism and a strengthening of the welfare state. According to Crepaz (1998), spending on health and social protection can be interpreted as welfare spending.

Moreover, the deterioration of the situation should not be seen either, because in that case it will be interpreted not as stability but as increased repression. Therefore, in order to reject the stability of the neoliberal competition state, it is a necessary condition that spending on education, R&D, health and social protection should not change fundamentally.

Interpretation: 1 Shift towards a developmental state has started after the crisis

Necessary condition for rejection: stagnation or decrease in education and R+D expenditures

Interpretation 2: The stability of the neoliberal competition state has characterized the post-crisis period.

Necessary condition for rejection: fundamental change in spending on education, R&D, health and social protection

If both interpretations are rejected, it means that instead of developmental transition or stability, it is worth interpreting the changes in the region after the 2008 crisis in a third way.

3.2. Data and method

To assess these interpretations the research used comparative cluster analyses. Following Amable (2003) cluster analysis is a preferred methodology in the literature on comparative capitalism. It provides a statistically robust way of creating homogeneous groups and comparing clusters over two periods allows the observation of countries that have changed clusters, making it easier to identify which countries have changed fundamentally.

For the cluster analysis, the average of three variables were calculated for the 10 countries over the period 2000–2007 and 2011–2019. These three variables were: total public expenditure, expenditure on education and R+D (developmental expenditure) and expenditure on health and social protection (welfare expenditure), all expressed as a percentage of GDP. To define the variables, the research used the database of Classification of the Functions of Government (COFOG) maintained by Eurostat (2025). The means of the variables in the two periods are shown in Table 1.

The analysis of total public expenditure is essential for the interpretability of the clusters, as it allows the separation of larger and smaller states, as well as the detection of the growth of the role of the state. The analysis of expenditure on education, R&D, health and social protection is also crucial as it verifies the correctness of the interpretations defined above. Education and R&D expenditure reflect the shift towards a developmental state, while social protection expenditure reflects the degree of embeddedness. These variables are broad enough to provide a comprehensive picture of the change in public expenditure. Although it would be interesting to include additional variables, such as economic affairs, this would reduce the interpretability of the clusters.

This study analyses 10 EastCentral European countries. We have chosen them because they have a similar historical development, all with a post-socialist past, but now members of the European Union. Moreover, as the literature review has shown, there is a lively

Table 1. The data used in the cluster-analysis and the difference between the two periods.

	2000–2007			2011–2019			Difference		
State expenditures	Total public expenditure	Education and R +D (developmental)	Health and social protection (welfare)	Total public expenditure	Education and R +D (developmental)	Health and social protection (welfare)	Total public expenditure	Education and R +D (developmental)	Health and social protection (welfare)
	As a share of GDP			As a share of GDP			As a share of GDP		
Bulgaria	38.4	4.2	16.2	36.9	3.9	17.3	−1.5	−0.3	1.1
Czechia	43.1	5.6	19.3	41.7	5.7	20.6	−1.3	0.1	1.2
Estonia	34.7	6.9	14.1	38.8	7.1	17.7	4.2	0.2	3.7
Latvia	35.2	5.9	14.0	39.0	6.2	15.6	3.8	0.3	1.7
Lithuania	35.4	6.2	15.7	35.6	5.6	17.6	0.2	−0.6	1.9
Hungary	49.3	6.4	21.2	48.3	5.6	19.7	−1.0	−0.8	−1.5
Poland	44.2	6.4	21.9	42.4	5.7	20.9	−1.8	−0.7	−1.0
Romania	35.6	4.3	13.8	35.6	3.5	15.9	0.1	−0.7	2.1
Slovenia	46.6	7.3	23.9	48.6	6.9	24.8	2.0	−0.5	1.0
Slovakia	42.1	4.3	19.7	41.8	4.7	21.3	−0.3	0.4	1.5

Source: own calculation based on Eurostat (2023).

debate about the transformation of the varieties of capitalism in these East Central European countries after the 2008 crisis.

Separate cluster analyses were carried out for the two periods and the results of these two cluster analyses were compared using a cross-table. Due to the small sample size (10 countries), hierarchical analysis methods were used. Among these, the Ward method was chosen, which is considered to be one of the best as it produces clusters of approximately equal size and minimizes intra-cluster dispersion (Majerova and Nevima 2017).

As the variables examined were scaled differently, the difference in variance could have confounded the analysis. Therefore, each variable was standardized using the z-score method. However, other standardization methods were also used to test robustness. The optimal number of clusters was determined using a line plot generated from the coefficients of the summary table and the dendrogram. For robustness, the results were checked with other hierarchical methods (centroid and between-group linkage method). The stability of the selected number of clusters was also checked with the non-hierarchical k-means method.

The Ward method showed the clustering of four clusters for both the first and second periods (see Figures A1–A4 in the Appendix). The robustness analysis confirmed the four-cluster result in both periods. In addition, the means of each cluster were calculated to characterize them. The cluster means were calculated as a proportion of the regional mean to illustrate the differences between the clusters. Table A1 in the Appendices shows the cluster means, the regional ratios and the cluster names. A cross-table has also been produced (Table 2). Figures 2 and 3 illustrate the results of the cluster analysis in a bubble chart.

As the cluster analysis showed that Hungary and Poland changed their clusters, it is worthwhile to analyse these two countries in more detail. Therefore, public expenditure was examined by analysing the 10 basic COFOG functions in Poland and Hungary. The average was calculated for each government function for the period 2000–2007 and 2011–2019 separately for the two countries. The countries were also compared by assessing the post-crisis situation.[2] This is presented in Chapter 4.2.

4. Results

4.1. Results of the cluster analysis

The analysis resulted in clearly distinguishable clusters. The first, the neoliberal cluster, includes Bulgaria and Romania in both periods. Their average government expenditure is lower (36.9% of GDP between 2000 and 2007) and their development and welfare spending is well below the regional average. Welfare spending in this cluster increased from 15% of GDP to 16.6% after the crisis.[3]

The Baltic States have consistently belonged to the liberal development cluster in both periods. They have maintained a small state (35% of GDP between 2000 and 2007) with low welfare spending, but above the regional average in terms of developmental spending. For example, in the first period, 110% of the regional average was spent on education and R&D, and this commitment was maintained after the crisis. The term liberal development highlights their high developmental spending relative to their low total spending.

Table 2. Cross-table presenting the countries in each clusters; source: own elaboration.

2000–2007 (row) 2011–2019 (column)	Neoliberal	Liberal developmental	Embedded	Embedded developmental	Total
Neoliberal	Bulgaria, Romania	–	–	–	2
Liberal developmental	–	Estonia, Latvia, Lithuania	–	–	3
Embedded	–	–	Czechia, Slovakia	–	2
Embedded developmental	–	–	Hungary, Poland	Slovenia	3
Total	2	3	4	1	10

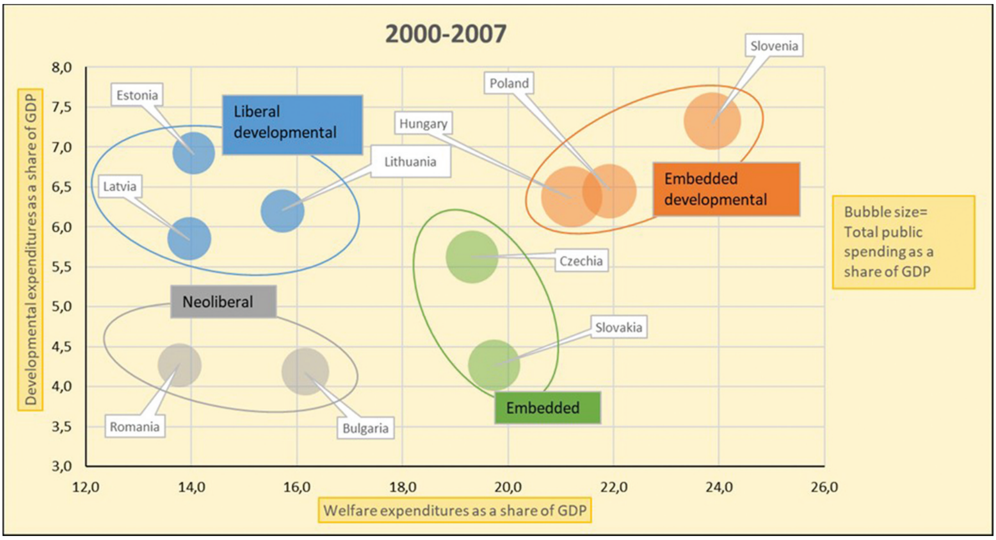

Figure 2. Results of the cluster analysis on a bubble chart (2000–2007), source: own elaboration

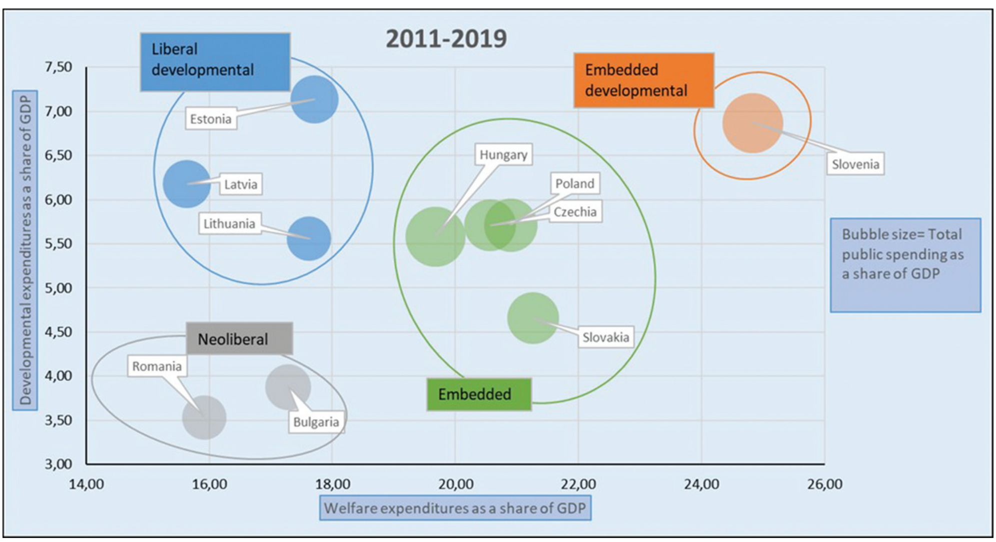

Figure 3. Results of the cluster analysis on a bubble chart (2011–2019), source: own elaboration.

Avlijaš (2020) supports this by noting the Baltic countries' focus on social investment. Welfare spending has also increased from 14.6% to 17% of GDP, showing a shift towards greater embeddedness.

The embedded cluster consists of countries with higher state expenditures, averaging 42.6% of GDP from 2000 to 2007, and welfare spending at 105% of the regional average in the first period. This fourth, embedded developmental group includes states with the highest total, developmental, and welfare expenditures in the region. For example, in the first period, public spending was 115%, developmental spending 117%, and welfare spending 124% of the regional average. Initially, Czechia and Slovakia were in the embedded cluster, but in the second period, Poland and Hungary joined, while Slovenia remained consistently in the embedded developmental cluster. The results of the cluster analysis show that most countries remained stable, with only Poland and Hungary changing their clusters.

4.2. Changes in public expenditures in Poland and Hungary

The change in clusters requires a detailed analysis of Hungary and Poland. In Hungary, most expenditure categories decreased as a share of GDP, including social protection, health care and education (Figure 4). Although social protection decreased, family and child benefits increased by 0.1 percentage points (see Annex, Table A2); moreover, family benefits are provided in the form of tax refunds, which are not counted as expenditure (Raț and Szikra 2018). Spending on housing, community amenities, defence and general public services also declined, the latter due to a decrease in debt-related transactions. Conversely, economic affairs (mainly transport) increased from 6.1% to 7.8%, while spending on recreation, culture, religion and environmental protection also increased. Expenditure on public order and safety remained stable.

All in all, while total public expenditure fell by only 1 percentage point, important expenditure such as education, health or social protection fell by 2.3 percentage points as a share of GDP. This also shows that the fall in total expenditure

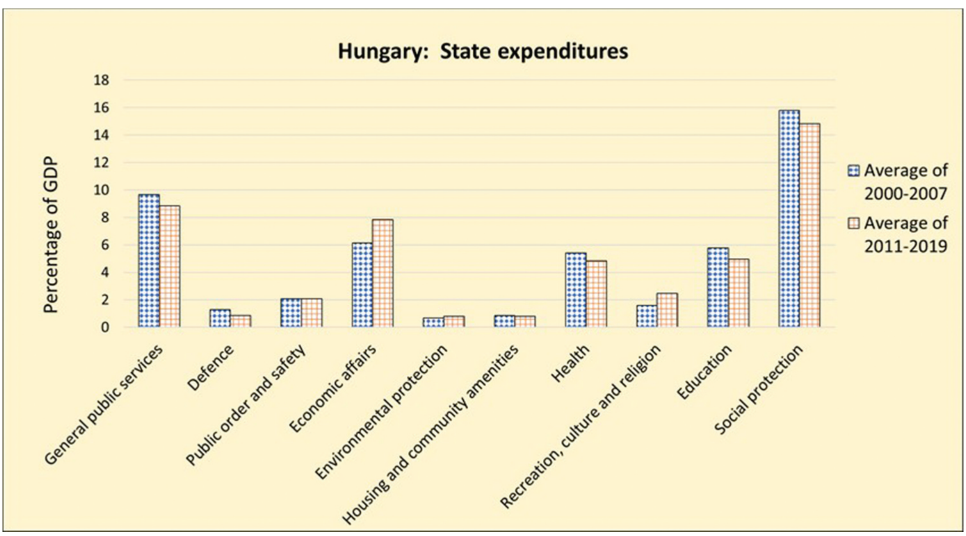

Figure 4. Comparison of government expenditure by function for Hungary for the years 2000–2007 and 2011–2019, average expenditure as a percentage of GDP; source: own calculation based on Eurostat (2023).

alone does not explain the fall in such expenditure. At the same time, there was a slight internal reallocation of expenditure, with a shift towards economic affairs (mainly transport) and recreation, culture and religion, which increased as a share of GDP.

In Poland, despite a significant overall fall in total expenditure, there were increases in several key areas (Figure 5). Expenditure on economic affairs (mainly transport), recreation, culture, religion and health (from 4.3% to 4.7% of GDP) all increased. Expenditure on public order and safety also increased. Conversely, spending on education and social protection fell, with social protection experiencing a sharp decline of 1.4 percentage points. Expenditure on housing, community amenities and general public services also fell, the latter mainly due to lower interest payments. However, family and child benefits increased by 0.5 percentage points (see Appendices, Table A2). Overall, total expenditure in Poland fell by 1.8 percentage points, reflecting significant internal reallocations towards economic affairs (mainly transport), recreation, cultural and religious activities, and family and child benefits.

Figure 6 illustrates the differences between Hungary and Poland. Hungary spends significantly more on general public services, economic affairs and recreation, culture and religion, accounting for almost 40% of total expenditure, compared to 27% in Poland. The high level of spending on general public services is partly due to Hungary's high level of government debt and interest payments. Expenditure on recreation, culture and religion is more than 5% in Hungary but only 3% in Poland. Poland allocates more to health (11% vs 10%), social protection (38% vs 31%) and education, indicating a stronger focus on these sectors compared to Hungary.

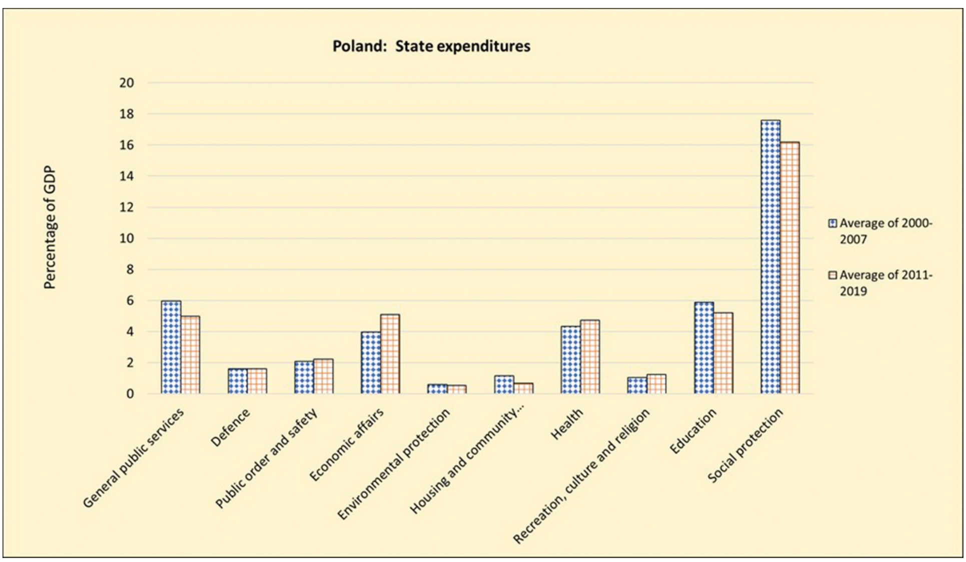

Figure 5. Comparison of government expenditure by function for Poland for the years 2000–2007 and 2011–2019, average expenditure as a percentage of GDP, source: own calculation based on Eurostat (2023).

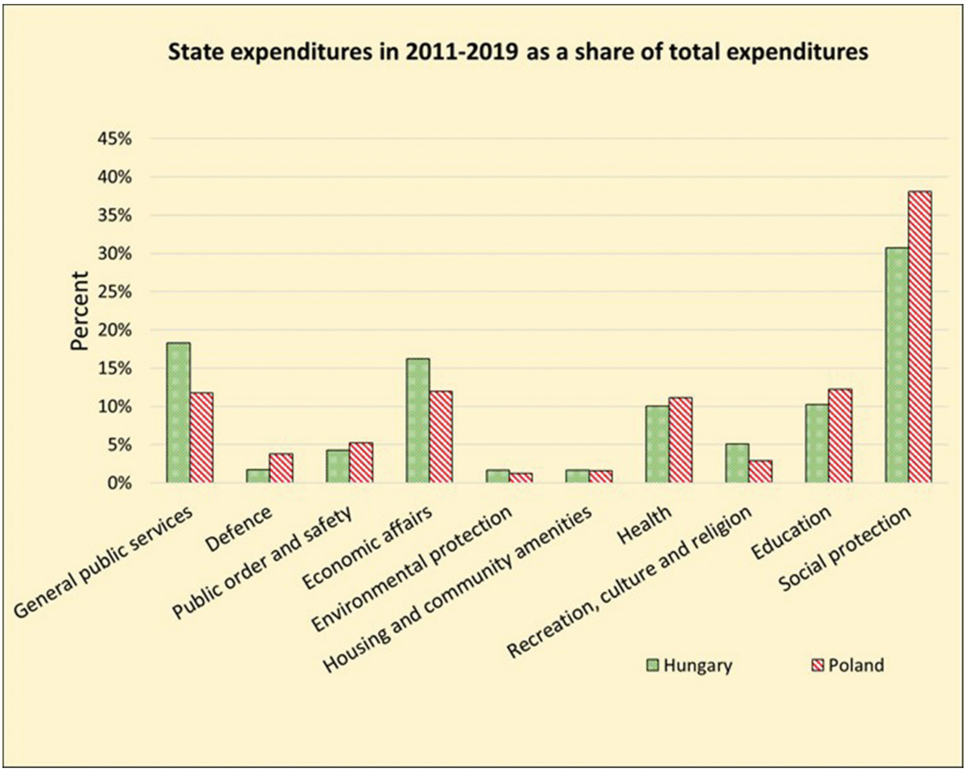

Figure 6. Government expenditures by function as a percentage of total expenditure, average 2011–2019 for Poland and Hungary, source: own calculation based on Eurostat (2023).

5. Discussion: An Illiberal Shift in Redistribution?

The analysis confirmed the grouping of Bohle and Greskovits (2012), as four different clusters emerged: neoliberal, liberal developmental, embedded and embedded developmental. An important difference with their work is that, according to these results, Poland and Hungary were closer to Slovenia before the crisis. The persistence of the four clusters confirms the second interpretation, according to which the stability of the former neoliberal competition state can be seen after the crisis. In 8 out of 10 countries, the increase or decrease in development and welfare spending was not large enough to lead to a cluster change, so that for these countries the first hypothesis can be rejected, but not the second. Therefore, according to the results, the post-crisis period can be safely interpreted as stability for the majority of countries.

However, this does not mean that there was no change in the variables in these countries, only that it was not strong enough to lead to a cluster change. In these 8 countries, two minor changes can be distinguished. Firstly, a high road embedding structural shift in Estonia, Latvia, Czechia and Slovakia. These countries have been able to increase both welfare and developmental spending. Czechia stands out from this group as it has followed this path with a large reduction in total expenditure. The second small change is the "welfare commitment," with an increase in welfare expenditure and a decrease in developmental expenditure as a share of GDP. This can be seen in the case of Romania and Bulgaria, Lithuania and Slovenia. The most striking case is Romania, where developmental expenditure has fallen sharply (by more than 17%), while welfare expenditure as a share of GDP has risen (by almost 16%).

At the same time, two countries, Poland and Hungary, changed clusters; this structural change is called "low-road disembedding" because it represents the change for a combined decrease in developmental and welfare spending as a percentage of GDP. As a result, they moved from the embedded developmental group to the embedded cluster. Therefore, in the case of these two countries, neither interpretation can be accepted, but a third interpretation should be created.

The detailed analysis shows an increase in spending on economic affairs, recreation, culture and religion, and support for families and children. At the same time, spending on other types of social protection and education has fallen. This cannot be interpreted as stability, as the research showed a change in clusters and a fundamental decline in development and welfare spending. However, the research cannot confirm a shift towards a post-socialist developmental state, as developmental spending on education and R&D has not increased. Therefore, the paper argues that it can be interpreted as a specific, illiberal shift in government spending that is neither a shift towards a more embedded state nor a shift towards a developmental state. It is based on conservative-illiberal ideology and supports ideologically important functions such as religion, sport and family benefits at the expense of education and other social protection measures.[44]

However, the analysis also showed that there are significant differences between the two countries. For example, in Poland the financing of health care has increased and a higher percentage of total expenditure is allocated to social protection, health and education. It can therefore be concluded that the Polish redistribution is more focused on financing education and health as two key government functions than the Hungarian expenditure profile, making the illiberal shift less pronounced in Poland. This is confirmed by many other authors in the literature who highlight the stronger welfare and developmental character of the Polish model (Scheiring 2021; Naczyk and Eihmanis 2023).

6. Conclusions

Two competing interpretations dominate the literature on the changing varieties of East Central European capitalism after the 2008 crisis. The first interpretation argues that there is a shift towards a developmental state, while the second claims that there is a stability of the neoliberal competition state. The research used cluster analysis to assess these interpretations by analysing total, welfare and developmental expenditure of the ECE states in two periods (2001–2007 and 2011–2018). Cluster analysis confirmed the second interpretation for most countries and distinguished four stable clusters in both periods: neoliberal, liberal developmental, embedded and embedded developmental. These clusters overlap significantly with the groups of Bohle and Greskovits (2012), but in some respects they refine the previous findings. For example, they point out that the Baltic States are above the regional average in terms of developmental spending. This is what the term liberal developmental aims to capture. In addition, there were two small changes after the crisis that did not lead to a change in the cluster. Romania, Bulgaria, Slovenia and Lithuania increased their welfare spending and became more embedded. Estonia, Latvia, the Czech Republic and Slovakia increased their development and welfare spending.

Nevertheless, Hungary and Poland followed a third change, a "low-road disembedding," which was accompanied by a cluster change. In the case of these two countries, therefore, there were fundamental changes. They were in the embedded development group with Slovenia before 2008, but then changed clusters and became members of the embedded cluster after the crisis. Thus, the analysis showed that the "stability interpretation" may not be correct. Moreover, contrary to the first interpretation, a developmental shift was not confirmed in Poland and Hungary. The detailed analysis of Hungary and Poland revealed a shift towards expenditure on economic affairs (mainly transport), recreation, culture and religion, and family and child support. At the same time, expenditure on education and social protection decreased. The results confirm a third interpretation of the post-crisis period, as these changes cannot be interpreted as stability or a move towards a developmental state, but represent a particular, illiberal shift in redistribution.

This analysis extends the literature on comparative capitalism by emphasizing the role of the state, using government expenditure as a proxy. The results suggest that understanding the transformation of the ECE economies requires taking into account the involvement of the state. However, the study of public expenditure alone has limitations, as it does not reveal the specific public programmes that were funded. Future research should include actual public policies and other state instruments, such as taxation, state aid, regulatory changes and property rights measures, to better understand the post-2008 crisis economies of East Central Europe.

Notes

1. Namely: Estonia, Latvia, Lithuania, Poland, Slovakia, Czechia, Hungary, Slovenia, Romania and Bulgaria.
2. In order to compare the expenditure side of government, it is useful to present each item as a percentage of total expenditure, as this way it is not necessary to deal with differences in total expenditure. Therefore, the average public expenditure calculated for the period 2011–2018 has been divided by the average total expenditure, thus showing the main expenditure as a percentage.
3. For the sake of simplicity, the term "average" is not used in the following paragraphs. However, it is important to note that in each case the figures refer to the average government, developmental or welfare expenditure over a given period.
4. The exception is the growth of economic affairs (mainly transport) spending, which does not appear to be ideologically motivated. However, in the case of Hungary, investment in transport infrastructure is an important means of paying off loyal oligarchs and is therefore crucial for maintaining the illiberal model (Rogers 2019; Váczi 2021).

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendices

Table A1. Cluster averages, regional averages and names of the clusters; source: own calculation.

	2000–2007	1. Cluster	2. Cluster	3.Cluster	4.Cluster	Regional average
Cluster average (as a share of GDP)	Total public expenditures	36.97	42.6	35.08	46.68	40.44
	Developmental expenditures (education and innovation)	4.23	4.95	6.33	6.71	5.75
	Welfare expenditures (health and social protection)	15.0	19.53	14.6	22.34	17.97
Cluster average (as a share of the regional average)	Total public expenditures	91%	105%	87%	115%	
	Developmental expenditures	74%	86%	110%	117%	
	Welfare expenditures	83%	109%	81%	124%	
2011–2019		1. Cluster	2. Cluster	3.Cluster	4.Cluster	Regional average
Cluster average (as a share of GDP)	Total public expenditures	36.3	43.6	37.8	48.6	40.9
	Developmental expenditures (education and innovation)	3.7	5.4	6.3	6.9	5.5
	Welfare expenditures (health and social protection)	16.6	20.6	17.0	24.8	19.1
Cluster average (as a share of the regional average)	Total public expenditures	89%	107%	92%	119%	
	Developmental expenditures	68%	99%	115%	125%	
	Welfare expenditures	87%	108%	89%	130%	
Cluster name		Neoliberal	Embedded	Liberal developmental	Embedded developmental	

Table A2. Breakdown of government expenditure by function for Hungary and Poland; source: own calculation based on Eurostat (2023).

	Hungary				Poland			
Government expenditures by functions	2000–2007	2011–2019	Difference	Change in percentage	2000–2007	2011–2019	Difference	Change in percentage
Unit of measurement	Percentage of GDP			Percent	Percentage of GDP			Percent
Total	49.3	48.3	−1.0	−2.0%	44.2	42.4	−1.8	−4.0%
General public services	9.7	8.8	−0.8	−8.6%	6.0	5.0	−1.0	−16.2%
> Public debt transactions	4.4	3.5	−0.9	−19.7%	2.8	2.0	−0.8	−27.8%
Defence	1.3	0.8	−0.4	−34.4%	1.6	1.6	0.0	0.0%
Public order and safety	2.1	2.1	0.0	0.2%	2.1	2.2	0.1	5.9%
Economic affairs	6.1	7.8	1.7	27.8%	4.0	5.1	1.1	28.4%
> Transport	2.6	4.1	1.5	57.9%	2.3	3.4	1.1	47.9%
Environmental protection	0.7	0.8	0.1	20.8%	0.6	0.5	−0.1	−9.3%
Housing and community amenities	0.9	0.8	−0.1	−8.5%	1.2	0.7	−0.5	−41.1%
Health	5.4	4.8	−0.6	−10.3%	4.3	4.7	0.4	9.4%
Recreation, culture and religion	1.6	2.5	0.9	54.2%	1.0	1.2	0.2	17.8%
Education	5.8	5.0	−0.8	−14.0%	5.9	5.2	−0.7	−11.7%
Social protection	15.8	14.8	−0.98	−6.2%	17.6	16.2	−1.4	−8.1%
> Family and children	2.0	2.1	0.1	3.8%	1.3	1.8	0.5	39.1%

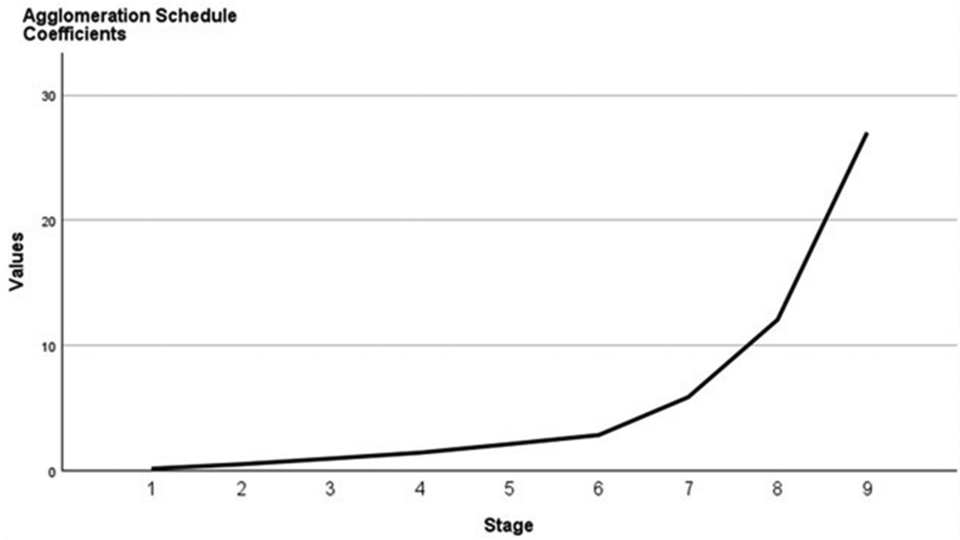

Figure A1. Line chart in 2000–2007; source: own elaboration.

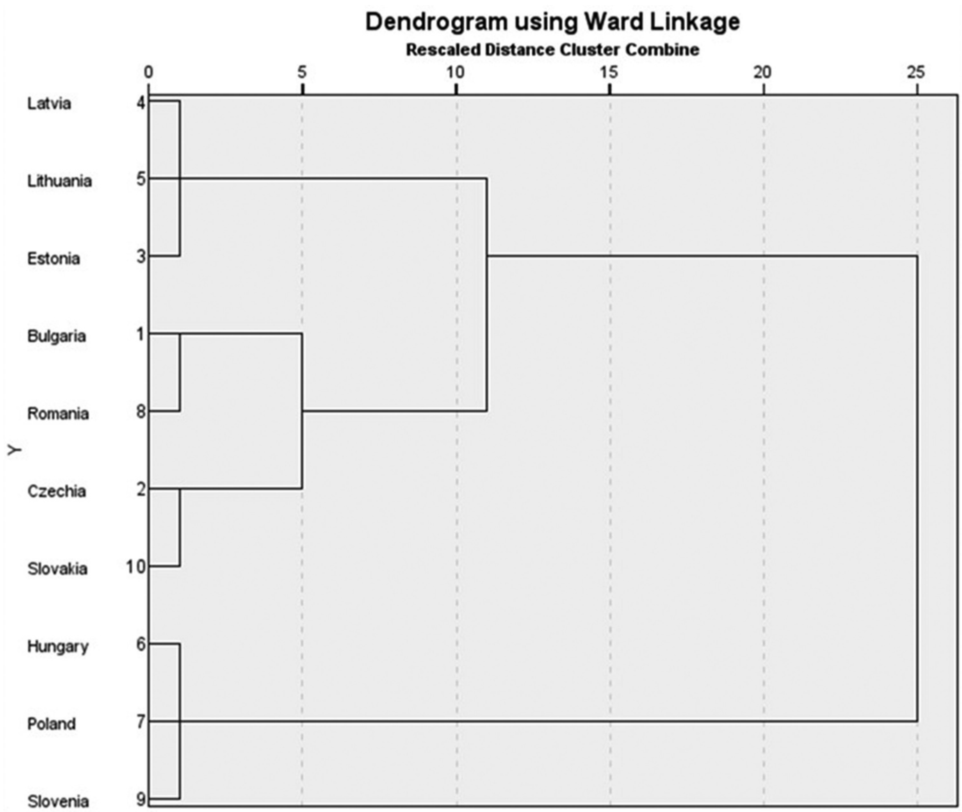

Figure A2. Dendrogram using ward linkages in 2000–2007; source: own elaboration.

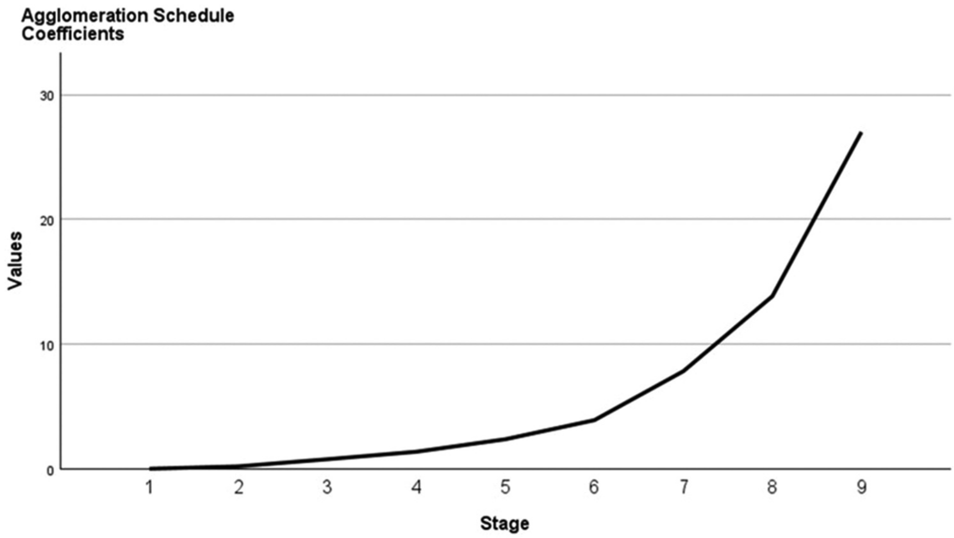

Figure A3. Line chart in 2011–2019, source: own elaboration.

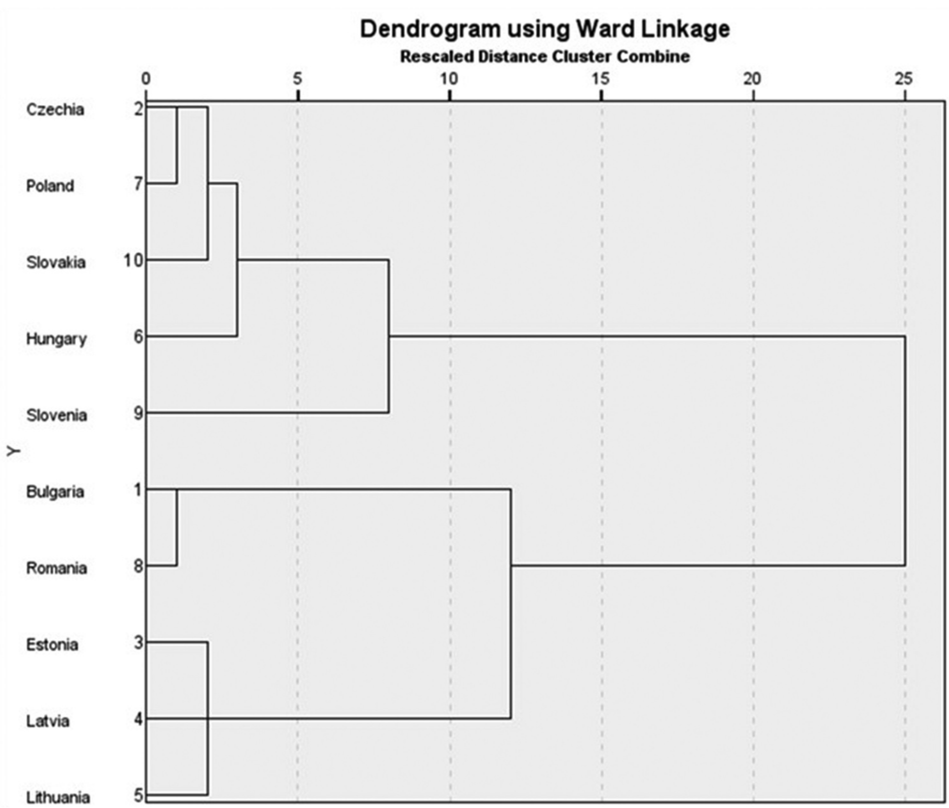

Figure A4. Dendrogram using ward linkages in 2011–2019, source: own elaboration.