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Article

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Empirical Paper

Piotr Maszczyk*

The comparative empirical analysis of the social protection system in selected Central and Eastern European countries: Emerging models of capitalism¹

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Abstract: This article analyzes the institutional architecture and the level of similarity between the social protection system in 11 new EU member states from Central and Eastern Europe and chosen Western European countries, representing four different models of capitalism identified by Amable. In the selected institutional area, a comparative analysis was performed, and based on it, similarity hexagons were created. They serve the purpose of comparing Central and Eastern European (CEE) countries with Western European countries of reference. The dynamic approach adopted in this study—two different time periods were compared—allows an analysis of path dependence and the evolution of institutional architecture over time. The analysis indicates that in 2014, in the area of social protection, almost all CEE countries, apart from Latvia and Romania, were most comparable to the Continental model of capitalism represented by Germany. Nevertheless, the variety of results for the individual variables (especially input and output variables) and substantial changes between 2005 and 2014 also show that the model of capitalism prevailing in Central and Eastern Europe in the area of the social protection system is evolving constantly at a very fast pace and thus currently may be called a hybrid or even patchwork capitalism.

Keywords: varieties of capitalism, institutions, CEE countries, post-communist capitalism

JEL Classification: P51

1 Introduction

Analyzing the possible institutional dispersion of the social protection system, some key elements must be underlined. First, the most important factor influencing the institutional architecture of this area is path dependency, mainly on the historical, political, demographical, and cultural determinants, which differ substantially even in a relatively homogenous group of countries like Central and East European EU New Member States. Because of this, it is much harder—compared to the rest of institutional areas—to define possible similarities or dissimilarities because local variables play the most important role in the social protection system. To some extent, each country in the analyzed group could create its model, or the whole group of both “old” and “new” EU member states, could be—up to the point—classified in two, undifferentiated models.

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Second, this particular institutional area is *par excellence* “non-tradables”; in that sense, it was created and then evolved almost without the influence of foreign entities.² The hypothesis of “Dependent Market Economies” (DMEs) presented by Nölke and Vliegenthart [2009] suggests that DMEs (mostly Visegrad countries) are coordinated largely by hierarchical intra-firm relationships within transnational corporations, and due to that, decisions regarding knowledge production are not dominated by concerns regarding the long-term innovation potential of national economies, but rather by their current profitability. The same type of influence could and still can be observed in areas such as “product market competition,” “financial intermediation,” “labor market and industrial relations,” and in “knowledge system.” But the social protection system, as it was out of interest of multinational corporations, was designed in fully autonomous way in each country from the interesting group. Of course, it would be a substantial mistake to neglect informal institutions that influence the design of this institutional area, like—natural to some extent—tendency to copy well-functioning institutions from countries seen by political and social elites in Central and Eastern Europe as “institutional benchmarks.” But in such a case, the decision of both, the copying scope and the country selected as a muster, were limited by internal, mostly political factors, which could not be ignored by any government.

Third, the institutional architecture of social protection system, especially the scope of government involvement, is constantly evolving in line with economic development, demographical and technological changes, and most of all revisions in values and commonly shared by the society, believes in the desired level of solidarity and welfare state [Amable, 2003]. Certainly, some movements are common for the whole analyzed group. The constant increase in public and private spending on healthcare and pension system (due to demographical changes) and fluctuations in unemployment compensation as a consequence of recession or expansion are most likely the most visible of that kind.

Fourthly, as we know from Amable’s [2003] trailblazing book, it is not easy to define whether the given set of institutions fulfills the criteria of efficiency. The one and only possible evaluation of this dimension should be always undergoing with additional question: “efficient for whom?” It is not easy to settle, even if one can use some nonjudgmental measures like it is in case of “product market competition,” “financial intermediation,” or “knowledge system.” Is it better to have the labor market institutions that maximize the participation rate, or maybe to design them in the way which will supply a needed number of skilled and cheap workers, with unemployment lowering the wage increase expectations and negotiation power of the labor demand side? The first case scenario is, of course, better for the society as a whole, but the second solution would be desirable by a foreign investor and for the entrepreneurs in a broader sense. In case of “social protection system” with its enormous component of political economy and public choice decisions, such judgment seems to be almost impossible. According to Amable [2003], the final shape of institutions is always the result of a political compromise between groups of interest that tried to force the most possible favorable conformation of a given institution. As in the area of the social protection system, it is easy to hide such a strategy because it is difficult to measure the efficiency of the sole mechanism, and the whole system is vulnerable to the lack of complementarity, both internal and external. Moreover, as the institutional change requires—according to Amable—the support of the distributive coalition, powerful enough to force such modification, the situation in which the shape of the whole institutional area is suboptimal—from the complementarity point of view—could be kind of medium- or long-term equilibrium.

The fundamental switch in Polish institutional architecture of social protection that took place after last parliamentary elections in 2015³ can be seen as an example of such a situation. A new government program called “*Rodzina 500 Plus*” (“Family 500 Plus”) was introduced. According to this mechanism, every second and next child is supported by monthly, public transfer equal to 500 zloty. A broadly shared consensus between sociologists and political scientists is that it was one of the most

² Using the framework presented by Balassa [1964] and Samuelson [1964], institutional areas can be divided into two groups: “tradables,” which were created and then evolving under at least partial influence of nondomestic entities and “non-tradables,” in principle free of such influence.

³ Because of that, this substantial institutional change is above the scope of analysis of this article.

important pillars of voting success and that currently there is no serious political party supporting the termination of this program. The main reason for this was the widely shared belief in Polish society that the best type of policy that can be introduced by the government is just the direct money transfer (instead of tax credit or increasing public spending on nurseries or educational infrastructure). This new mechanism thus assured the complementarity that was understood as law and values between institutions. At the same time, the consensus among economists and researchers keen in demography is that even if this mechanism positively influenced fertility rate (FR), the direct (ca. 25 billion zloty) and indirect (e.g., negative influence on the participation rate of women) costs of this program are far too high, compared to its gains. So, this substantial institutional change cannot be objectively judged as efficient or increasing efficiency of that institutional area, and the area of “labor market and industrial relations” and “product market competition” cannot be considered as external complementarity. Nevertheless, it was efficient for both the party that introduced this mechanism, and due to that won, the parliamentary elections and those households are currently receiving public support. Considering a stable macroeconomic situation, winning the next parliamentary elections without supporting this program seems to be impossible. In that way, inefficient change would be a stable part of Polish social protection system.

It is worth to admit that the above-described mechanism is typical for both “old” and “new” EU member states. Direct support of children in the families could be treated as a new and revolutionary mechanism in Poland, but it has a very long history in Germany and other countries from Western Europe. No matter of its effectiveness (taken into account more or less the same relative amount of money spent in that way, and in 2005, in Germany, the FR was lower by more than 0.4 points compared to Sweden and more than 0.6 points compared to France, and in 2014, those differences did not change, respectively⁴), they seem to be very long-lasting.

This article has been structured as follows. Section 2 provides the theoretical background for our study. Section 3 presents the variables and describes the methodology. Section 4 discusses the empirical results of the presented exercise, and Section 5 concludes the article.

2 Background

Originally, the idea of “comparative capitalism” was reserved only to the co-existing varieties of capitalism in Western industrialized countries. As a derivative, the methodological and conceptual frameworks developed toward this end were designed for developed market economies alone. This was true for one of the major contributions to the field made by Bruno Amable [2003] to the area described earlier. His proposition has triggered a new offspring of research geared toward a direct application of the original framework⁵ involved in the former socialist countries undergoing a systemic transformation from a centrally planned toward a market-driven economy, with an end to explain and better understand the nature of the emerging post-communist models of capitalism there. Simultaneously, based on the original methodology, some attempts have also been made to take account of institutional peculiarities inherent in the post-communist transition and to extend the existing standard classifications with derivative categories that would accommodate transition countries too, as the emerging types of post-communist capitalism. These trends have become particularly pronounced since the Eastern enlargement of the European Union in 2004 and 2007 encompassing 10 Central and Eastern European (CEE) new member states [followed by Croatia in 2013].

As the first step in his novel methodology, Amable singled out five major institutional areas or key elements of the overall institutional architecture of a country, namely: (i) product market competition, (ii) wage-labor nexus and labor market institutions, (iii) financial intermediation sector and corporate governance, (iv) social protection sector, and (v) education and knowledge sector.

⁴ If it is not set differently, all mentioned data are taken from the Eurostat.

⁵ This also applies to another important contribution, made 2 years earlier by Hall and Soskice [2001]. For more details, see Próchniak et al. [2016].

Next, for each of the five areas concerned, he selected a set of indicators, mostly input variables, which best describe the most salient features of institutional setup. Finally, based on the application of principal components and cluster analyses, Amable identified five models of capitalism co-existing in the Western hemisphere, that is:

- the Anglo-Saxon model (the UK, the USA, Australia, New Zealand, and Ireland),
- the social-democratic model (also dubbed the Nordic or Scandinavian model: Sweden, Norway, Denmark, and Finland),
- the Continental European model (France, Germany, the Netherlands, and Austria),
- South European (or Mediterranean) capitalism (Greece, Italy, Spain, and Portugal),
- the Asian model (Japan and South Korea).

The original proposition put forward by Amable inspired other researchers to apply and extend the original DoC framework to incorporate countries undergoing a systemic transformation. An analysis of the most important theoretical and empirical research in the literature on the emerging varieties or models of post-socialist capitalism in the CEE countries was carried out by Próchniak et al. [2016]. Hence, the survey suggests that there is still much room for new studies on the models of capitalism existing in the CEE economies, with different extensions and modifications.

There are many differences between various models of social protection systems existing all over the world, but the most important one is the type of risks which the citizens of a given country are protected against by the government, and the scope of this protection [Amable, 2003]. Seen from this angle, there are six major areas to which government spending is channeled: healthcare, housing, pensions (and more generally, elderly people), sick and disabled persons, families, and the unemployed. The relative weight of each risk can be calculated using two different measures. The first measure is the share of a category of public spending in total public expenditure. Using this yardstick, one can assess the relative importance of a given area for the public sector. The second gauge compares the amount of public expenditure in the area involved with gross domestic product (GDP), which points to the relative macroeconomic significance of this area. To complete the picture, some other indicators that emphasize the most salient features of the tax system in a country (the relative burden of taxation, the main sources of tax revenues, and the top personal income tax rate) are considered.

The above-described set of measures led Amable [2003] to the conclusion that the dispersion of institutional characteristics in the social protection area in the group of countries examined in his study (mostly developed, at least medium-sized European economies as well as the USA, Canada, Australia, Japan, and South Korea) can be explained by three principal factors or indicators. The first is the ratio of benefits to total public expenditure and to GDP. These variables, according to Amable, enable a distinction between countries with a well-developed social protection system and those in which this area is (financially) underdeveloped. Amable indicated that this factor explains approximately 60% of institutional variance in the social protection systems in his sample [2003]. The second factor draws on a comparison between the relative level of public expenditure targeting families and the relative level of public spending targeting elderly people. The third indicator boils down to a relative amount of public money channeled to the healthcare system or the ratio of that expenditure to total public expenditure and to GDP.

Based on these findings, Amable identified five European clusters or models of the social protection system [2003]. His first cluster consists of four countries (Sweden, Denmark, Finland, and Norway) with a high ratio of benefits and social spending to both total public expenditure and GDP. In addition, all countries in this cluster concentrate social spending on families and display a high ratio of income tax revenue to GDP. The second cluster contains Ireland and Australia and is characterized by a relatively low level of public spending on social protection and a low ratio of consumption tax revenue to total tax revenue. The third model embraces the UK, the Netherlands, Spain, and Portugal. It is like the first cluster, but it exhibits a lower relative level of social spending and benefits. The last two clusters encompass Italy and Greece (with a generally low level of social spending and concentration on elderly people and pensions), and France, Germany, Austria, Belgium, and Switzerland, respectively.

Boeri [2002], in his earlier work, compared the performance of the four identified models of social policy (Mediterranean-Southern, Continental, Anglo-Saxon, and Nordic) in terms of meeting three objectives of this policy:

- reduction of income inequality and poverty,
- protection against uninsurable labor market risk, and
- reward to labor market participation.

Protection against uninsurable labor market risk can be provided either by employment protection legislation (EPL), which to some extent safeguards workers against firing or by unemployment benefits (UB). The differences between these two mechanisms are clear: EPL protects those who already have a job and does not impose any tax burden, whereas UB provide insurance to the population at large and are typically financed by a tax on those who work. Thus insiders, those with a stable and regular job, typically prefer EPL to UB. The four European social policy models vastly differ in their design and institutional traits. The Mediterranean model is characterized by very strict employment protection regulations and quite low coverage of UB. On the opposite side of the spectrum, the Nordic model provides UB that are both generous and comprehensive, but the strictness of the EPL is quite low. The Continental model provides generous UB too, but its EPL is stricter. Finally, the Anglo-Saxon model ensures comparatively less protection than its peers, with much less EPL strictness but as much unemployment insurance as the Continental and Nordic models.

Applying the methodological framework introduced first by Boeri [2002] and then by Amable [2003], Sapir [2006] proposed his classification of the European social models, varying in their most salient features and performance in terms of efficiency and equity. He argued that models that are not efficient are not sustainable and must be reformed. According to his calculations, the combined GDP of countries embodying inefficient social models accounts for two-thirds of the entire EU and 90% of the Eurozone. The four models singled out by Sapir cover four different geographical areas. The Nordic countries (Denmark, Finland, Sweden, and the Netherlands) feature the highest levels of social protection expenditures and universal welfare provision. There is extensive fiscal intervention in labor markets based on a variety of “active” policy instruments. Strong labor unions ensure highly compressed wage structures. The Anglo-Saxon countries (Ireland and the UK) feature relatively large social assistance of the last resort. Cash transfers are primarily targeted at people in the working age. Activation measures are important as well as schemes conditioning access to benefits to full-time employment. On the labor market side, this model is characterized by a mixture of weak unions, comparatively wide and increasing wage dispersion, and a relatively high incidence of low-pay employment. The Continental countries (Austria, Belgium, France, Germany, and Luxembourg) rely extensively on insurance-based nonemployment benefits and old-age pensions. Although their membership is on the decline, unions remain strong as regulations extend the coverage of collective bargaining to non-union situations. Finally, the Mediterranean countries (Greece, Italy, Portugal, and Spain) concentrate their social spending on old-age pensions and allow for a high segmentation of entitlements and status. Their social welfare systems typically draw on employment protection and early retirement provisions to exempt segments of the working-age population from participation in the labor market. The wage structure is, at least in the formal sector, covered by collective bargaining and strongly compressed.

According to Sapir, both the Continental and the Anglo-Saxon countries seem to face a trade-off between efficiency and equity. While the former enjoy much more equity but exhibit relatively lower efficiency, in the latter the opposite pattern is true—comparatively more efficiency and less equity are present. The Continental model countries are reasonably successful in mitigating poverty, but, in terms of job creation, are blighted with high unemployment. Socially, the model is fractious, splitting highly taxed workers (“insiders”) against a growing population of welfare recipients (“outsiders”), who despite being adequately cared for by the state may lack a measure of social inclusion that employment provides. The Mediterranean countries apparently face no such trade-off: their citizens live in a social system that, according to Sapir, delivers neither efficiency nor equity. These countries are generally

unsuccessful in both combating poverty and unemployment. Traditionally, social security was provided by social insurance funded by contributions from workers, with minimal benefits being offered to the unemployed or people with childrearing or caring responsibilities. By design, the family consequently has a strong role in social welfare, headed by a male breadwinner with strong job security. The paternalistic Mediterranean model has been criticized by Sapir not only for providing poor outcomes in terms of fixing unemployment and poverty but also for not addressing long-term issues around sustainability, such as financing pensions and addressing falling fertility among women unable to survive without adequate government support. In the Nordic countries, there is no efficiency-equity trade-off either; according to Sapir, they appear a bit successful in combining the impossible (i.e., a good economic performance without economic incentives distorted by high tax wedges or generous social security systems).

Regarding the reduction of income inequality and poverty, Sapir found that the extent of redistribution effected via taxes and transfers is the highest in the Nordic countries (with 42% reduction of inequality) and the lowest in the Mediterranean countries (35% reduction), with the Anglo-Saxon and Continental countries in the middle (39% reduction).

He also pointed out that rewards to labor market participation vary a great deal across the four European social models. Employment rates are far higher in the Nordic and Anglo-Saxon countries (72% and 69% in 2004, respectively) than in the Continental and Mediterranean economies (63% and 62%, respectively), with much disparity being attributable to differences at the two ends of the age spectrum. For workers aged 55–64, the employment rate is considerably higher in Nordic (56%) and Anglo-Saxon (53%) countries than in Continental (34%) and Mediterranean (40%) states. For workers aged 15–24, the unemployment rate is significantly lower in Nordic (13%) and Anglo-Saxon (10%) countries than in Continental (17%) and Mediterranean (22%) economies.

Yet another typology of welfare capitalism, which is worth mentioning, is the proposal put forward by the Danish sociologist Esping-Andersen [1990]. In his view, such typology should rely on three criteria:

- The capacity for de-commodification of social rights that captures the degree of independence from the market, which is necessary for people to protect their livelihoods;
- The impact of redistribution on social stratification (status or class inequality) and thus its contribution to the reproduction of the existing institutional context;
- The respective contributions of the state, the market, and the family to the financing of social protection.

Based on his analysis of social protection systems in 18 industrialized countries, Esping-Andersen identified three types of welfare-state models, which are characterized by a specific post-industrial employment trajectory. *Liberal regimes* (the USA, Canada, Australia, Ireland, and New Zealand; the UK was indicated to be close to this model) are characterized by modest means-tested assistance and targeted at low-income, usually working-class recipients. The strict entitlement rules of such assistance are often associated with stigma. This model of welfare state encourages market-based solutions to social problems—either passively by guaranteeing only a minimum or actively by directly subsidizing private welfare schemes. *Conservative regimes* (Germany, Italy, Finland, Japan, Switzerland, and France) are typically shaped by traditional family values and tend to encourage family-based assistance dynamics. Social insurance in this model typically excludes nonworking wives, and family benefits encourage motherhood. State assistance will typically only step in when the family's capacity to aid its members is exhausted. *Social democratic regimes* (mostly Scandinavian countries as well as Austria, Belgium, and the Netherlands) feature universalistic systems that promote equality of high standards rather than equality of minimal needs. This implies de-commodifying welfare services, reducing the division introduced by market-based access to welfare services and pre-emptively socializing the costs of caring for children, the aged, and the helpless, instead of waiting until the family's capacity to support them is depleted. This, in turn, results in a commitment to a heavy social service burden, which introduces an imperative to minimize social problems, thereby aligning the system's goals with the welfare and emancipation (typically via full employment policies) of those it supports.

The classification brought into scholarly circulation by Esping-Andersen gave birth to many empirical studies, which applied his methodology for different groups of countries and time brackets [Wood and Gough, 2006; Fenger, 2007; Rudra, 2007, 2008].

Other typologies refer mostly to labor market institutions. Worth referencing in this context is the study by Estevez-Abe et al. [1999], who extensively used the concept of internal and external complementarity of social protection system institutions, primarily with the knowledge sector. The authors pointed out that “social protection does not always mean ‘politics against markets’.” They argued that social protection rescues the market from itself by preventing market failures. They rejected well established in the literature thesis that protection of employment and income is seen as reducing workers’ dependence on the market and employers. They also claimed that employment and income protection can be seen as efforts aimed to increase workers’ dependence on employers as well as their exposure to labor market risks. Moreover, in their view, social protection often stems from the strength rather than the weakness of employers. The key argument behind this claim is the link between social protection and the level and composition of skills. In a modern economy, skills are essential for firms to compete in international markets and depending on a particular product and market strategy involved, they rely on a workforce with a certain combination of firm-specific, industry-specific, and general skills. To be cost-efficient, firms need workers who are willing to make personal investments in these skills. If enterprises want to be competitive in product markets that require an abundance of specific skills, workers must be willing to acquire these skills at the cost of increasing their dependence on a particular employer or group of employers. As investment in specific skills increases workers’ exposure to risks, firms can satisfy their need for specific skills only by insuring against these risks.

Thus, this article primarily aims to present the results of empirical analysis of the social protection system in 11 Central and Eastern European (CEE11) countries who joined the European Union between 2004 and 2013 against the backdrop of the established models of Western-type capitalism co-existing in the European Union. According to Amable [2003], the social protection system is one of the most important institutional parts of not only the whole architecture of given country institutional system but also the national political economy. For this study, each model is represented by one “ideal-typical” Western country: that is, Germany for the Continental model, Italy for the South European (Mediterranean) model, Sweden for the Social-democratic (Nordic or Scandinavian) model, and the UK for the Anglo-Saxon model.

This study allows adopting a dynamic approach because the results for the years 2005 and 2014 are compared. So, it is possible then to ask the questions of the path dependence to find out to what extent the current institutional environment of the social protection system results from past development trends of the examined countries.

3 Data and methodology

This article includes two types of variables. Variables representing, on the one hand, the determinants of the type of risks that the government protects the citizens of a given country, and the scope of this protection [Amable, 2003] and, on the other hand, the variables showing the effectiveness of social protection system are considered.

The selection of pertinent variables was based on the results of earlier studies on the subject [Próchniak et al., 2016], the economic significance of a particular variable, data availability, cross-country variance, the range of values assumed by a variable, as well as on its theoretical justification. At the same time, the list of indicators selected for this study reflects, to some extent, the author’s judgment on their relevance.

The list of used inputs and outputs variables are as follows:

- (a) total benefits/% of GDP/(Eurostat) [BtGDP];
- (b) total government expenditure directed to families to total government expenditures ratio (Eurostat) [GFtE];
- (c) total government expenditure on healthcare to total government expenditure ratio (Eurostat) [GHtE];

- (d) Gini coefficient (Eurostat) [GC];
- (e) FR (Eurostat); and
- (f) healthy life expectancy for people aged 65 (Eurostat) [HLY65].

For each CEE11 countries and four reference economies, the values of the foregoing variables were collected. Hence, a complete data set encompassed six indicators for each country. As it was emphasized above, two snapshots for two different years were made to add a more dynamic perspective to comparative exercise. Thus, time series comprised two data sets—one for the initial year (2005 or—in case of missing or incomplete data—the closest year) and one for the end year of our study (most recent available data, usually for 2014 or 2015).

Based on these variables, the hexagons that compare a CEE11 countries with the respective reference economies in terms of individual indicators were created. The coefficients of similarity to make a more general comparison between the countries involved were also computed. On this basis, the model of capitalism in a CEE11 countries with the model of capitalism in the reference Western European economy was compared.

The axes of the hexagons plot the ranks of similarity between a CEE country and the reference economies in terms of a particular indicator (upward and downward deviations are equally treated). Thus, the axes represent the percentage scale and range from 0 to 100. The higher the value, the greater is the similarity of the countries involved.

The ranks are calculated in the following way. The highest score (100) corresponds to the situation when the value of a variable for a CEE country is the same as the value for the benchmark economy. It implies full similarity between a CEE11 countries and a reference Western European economy in terms of this variable. In other words, it is the case when a CEE11 countries match exactly a particular model of capitalism.

The lowest score (0) occurs when the value of a variable for a CEE11 countries is outside the following range:

$$(X_{refC} - 3 \times SD(X_1, \dots, X_{15}); X_{refC} + 3 \times SD(X_1, \dots, X_{15})), \quad (1)$$

where X_{refC} is the value of the variable X for the reference country (representing a specified model of capitalism), while $SD(X_1, \dots, X_{15})$ is the standard deviation of the variable X in the whole analyzed group encompassing 11 CEE countries and four reference economies. Hence, if the value of a given variable for a CEE11 countries exceeds the value for a reference country by three standard deviations or more (regardless of the direction), score 0 is ascribed meaning that there is no similarity whatsoever between the two countries concerned.

If the value of a given variable for a CEE11 countries is inside the interval described by formula (1), the scores are calculated in percentage terms, that is proportional to the distance between the reference value (X_{refC}), for which the score 100 is assigned, and the boundary value [$X_{refC} - 3 \times SD(X_1, \dots, X_{15})$ or $X_{refC} + 3 \times SD(X_1, \dots, X_{15})$, depending on the direction of dissimilarity], which is associated with the score 0.

4 Empirical results

This section presents and interprets the empirical results of the application of the hexagon method. The institutional architectures in individual CEE11 countries with their peers prevailing in four reference Western European economies are compared.

For the institutional area of the social protection system, the hexagons that compare a CEE11 countries with four reference economies in the beginning and final year of the analysis are drawn. Each CEE country is plotted on a separate hexagon. Hence, the total number of hexagons amounts to 22 (11 CEE countries \times 2 years). Due to the space constraint, however, in the ensuing subsections of the paper, only the pertinent hexagons—for the initial and end year of the study—for one CEE sample country, that is Poland (Figures 1 and 2), are shown, and the rest of the hexagons for the year 2014 are presented in the Appendix. The bigger is the area marked by a respective curve, the greater is the similarity of a country toward a reference Western European economy in terms of six analyzed indicators on a given hexagon.

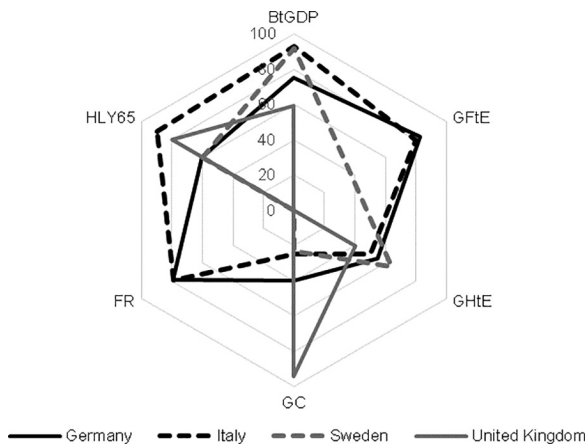


Figure 1. Poland: hexagon of similarity for social protection system, 2005.

Source: The author.

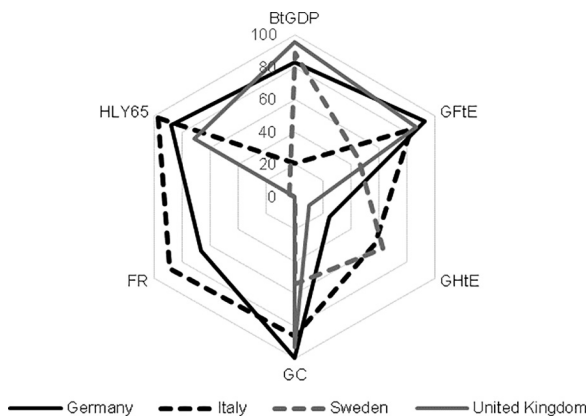


Figure 2. Poland: hexagon of similarity for social protection system, 2014.

Source: The author.

Tables 1 and 2 show the aggregated coefficients of similarity for the initial and end year, respectively. They are calculated as the arithmetic average of the ranks associated with individual indicators. The data in the tables are averages of the scores plotted on the axes of respective hexagons. Dark gray cells indicate the Western European model of capitalism to which a given CEE11 countries converge most significantly while the shaded cells point to the second-closest benchmark (if the score differential does not exceed 3%).

The first three indicators (total benefits to GDP ratio [BtGDP], total government expenditure directed to families to total government expenditures ratio [GFtE], and total government expenditure on healthcare to total government expenditure ratio [GHtE]) are treated as proxies that best describe the institutional architecture of the social protection system (input variables), while the three remaining variables (GC, FR, and healthy life expectancy for people aged 65 [HLY65]) represent outcomes of social protection.

Analyzing the 2005 values of similarity, it seems justified to claim that the interesting group of CEE11 countries in the area of social protection system does not represent one specific model of capitalism prevailing in “old” EU countries (Table 1). In opposite, different countries indicate the highest similarity with different models represent by Western European countries or were similar to more than one country. Nevertheless, some appealing tendencies can be recognized.

First, data in Table 1 indicate that eight CEE11 countries (except Bulgaria, Estonia, and Poland) exhibit the greatest resemblance to Germany which is to the Continental European model of capitalism. But only in the case of four countries of this group (Croatia, Czech Republic, Hungary, and Slovenia), the value of

Table 1. Coefficients of similarity, 2005 (%)

| Country | Reference country | | | |
|----------------|-------------------|-------------|-------------|-------------|
| | Germany | Italy | Sweden | UK |
| Bulgaria | 61.9 | 67.6 | 55.7 | 55.5 |
| Croatia | 75.3 | 62.3 | 57.6 | 61.6 |
| Czech Republic | 79.8 | 73.1 | 51.4 | 47.6 |
| Estonia | 50.6 | 35.6 | 49.6 | 56.1 |
| Hungary | 80.2 | 65.5 | 58.6 | 41.2 |
| Latvia | 61.7 | 52.4 | 35.7 | 43.6 |
| Lithuania | 66.7 | 55.4 | 35.5 | 45.6 |
| Poland | 65.4 | 69.6 | 49.3 | 45.5 |
| Romania | 49.0 | 47.2 | 31.3 | 39.1 |
| Slovakia | 67.5 | 53.6 | 40.2 | 29.9 |
| Slovenia | 80.2 | 78.1 | 73.0 | 46.9 |
| Mean | 67.1 | 60.0 | 48.9 | 46.6 |

Notes: Shaded cells indicate the highest similarity of a given CEE country to a benchmark, whereas light-shaded cells point to the second-closest benchmark with a difference below 3%.

Source: The author.

Table 2. Coefficients of similarity, 2014 (%)

| Country | Reference country | | | |
|----------------|-------------------|-------------|-------------|-------------|
| | Germany | Italy | Sweden | UK |
| Bulgaria | 57.0 | 51.0 | 49.0 | 55.1 |
| Croatia | 86.2 | 74.8 | 48.4 | 64.7 |
| Czech Republic | 70.6 | 54.4 | 48.1 | 67.5 |
| Estonia | 65.7 | 57.0 | 49.5 | 55.2 |
| Hungary | 71.7 | 57.2 | 48.4 | 54.0 |
| Latvia | 49.3 | 50.8 | 31.2 | 44.8 |
| Lithuania | 70.5 | 62.6 | 36.5 | 64.4 |
| Poland | 75.9 | 72.3 | 42.5 | 59.6 |
| Romania | 61.5 | 62.8 | 30.9 | 47.3 |
| Slovakia | 73.8 | 66.7 | 52.7 | 53.2 |
| Slovenia | 72.3 | 61.6 | 62.2 | 60.7 |
| Mean | 68.6 | 61.0 | 45.4 | 57.0 |

Notes: Shaded cells indicate the highest similarity of a given CEE country to a benchmark, whereas light-shaded cells point to the second-closest benchmark with a difference below 3%.

Source: The author.

similarity coefficients is higher than 70%. So, in the case of the rest of those countries, the similarity to the Continental model of capitalism is relatively low. In addition, in the case of Romania and Slovenia, which show the highest similarity to Germany, the coefficients of similarity with Italy are only insignificantly lower, by 1.8 and 2.1 p.p., respectively.

Second, Bulgaria and Poland indicate the highest similarity to Italy (Mediterranean model), with values higher than 65%, whereas in the case of Estonia, it is Great Britain. Estonia, together with Romania, seems

to be different than any model prevailing in Western European countries with the highest value of similarity equal to 56.1 and 49.0, respectively.

Third, for the majority of analyzed countries, Great Britain ranks last with regard to the level of similarity; in the case of Croatia, Latvia, Lithuania, and Romania, it is Sweden, and for Estonia, it is Italy.

Figure 1 shows the hexagon of similarity for Poland in 2005. The figure confirms that Poland was most akin to the Mediterranean model of capitalism represented by Italy. The similarity took place in terms of both input and output variables. The highest coefficient was recorded for total benefits to GDP ratio [BtGDP] (93%) and healthy life expectancy for people aged 65 [HLY65] (90%) while the lowest coefficient was noted for GC (25%).

The values of similarity coefficients for 2014, so 10 years later, and in the case of a majority of the analyzed group, almost the decade after the first EU Eastern Enlargement, demonstrate some interesting changes in the area of social protection.

Continually, as the data in Table 2 indicate, the majority of the analyzed group (all except Latvia and Romania) exhibit the greatest resemblance to Germany which is to the Continental European model of capitalism. But now, in the case of until seven countries from this group (compared to four countries in the previous period), the value of similarity coefficients is higher than 70%, and only in the case of Bulgaria, it is lower than 65%. The structure of this group has also changed throughout 10 years. Bulgaria, Estonia, and Poland have joined this cohort, while Latvia and Romania have left.

Moreover, the picture seems to be clearer. The coefficients of similarity with the other two models of capitalism in the social protection area are—in the case of nine CEE11 economies (except Latvia and Romania)—lower by more than 7.7%. The highest coefficients of similarity with Germany are recorded in Croatia (86.2%), Poland (75.9%), and Slovakia (73.8%), which implies that—in terms of the analyzed six variables—the institutional arrangements in these countries seem to be the closest to those prevailing in the Continental model of capitalism. Although Latvia and Romania show similarity with Italy (Mediterranean model), the level of resemblance is relatively lower than the rest of the CEE11 group (62.8% in Romania and 50.8% in Latvia). Above and beyond, the coefficients of similarity with the other models of capitalism in these two countries are only insignificantly lower by 1.3 and 1.5%, respectively. More significantly, the second-closest benchmark for Romania and Latvia is the Continental model of capitalism (Germany).

In addition, 10 out of 11 analyzed countries (except Slovenia) demonstrate the lowest resemblance to Sweden, embodying the Nordic/Scandinavian model of capitalism (10 years earlier, it used to be only four countries). This result may imply that—at least in the social protection system—the model of capitalism emerging in the CEE region is the least akin to the Nordic benchmark. It is even more visible when we consider only the output variables (outcomes) of social protection (especially FR and HLY65). In the case of these two variables, the level of resemblance to Sweden is well below 50%, and for eight countries in the sample (except Bulgaria, Czech Republic, and Slovenia) equals zero. Thus, this result could be treated as some evidence that the main problem CEE11 countries appear to face boils down to the efficiency of institutions in this domain, as the Nordic states are widely deemed as the world leaders in solving social protection problems.

An in-depth analysis of hexagon created for Poland (Figure 2) reveals that, in the case of this country, substantial changes have occurred during the period of 2005–2014. Figure 2 clearly confirms that Poland moved from the highest similarity to the Mediterranean model represents by Italy, toward Germany (Continental model). What is gripping, both coefficients of similarity (to Germany and Italy) increased during EU membership, but in the case of Italy only by 2.7 and in the case of Germany 10.5%, respectively. Nevertheless, the highest similarity with Germany mainly demonstrated in terms of the outcomes of social protection system (GC—93%, healthy life expectancy for people aged 65 [HLY65]—88%, and FR—67%) while the similarity concerned in terms of institutional arrangements (inputs) is slightly weaker (total government expenditure directed to families to total government expenditures ratio [GFtE]—93%, total benefits to GDP ratio [BtGDP]—83%, and especially as regards the relative amount of public resources directed to healthcare [GHtE]—25%).

5 Conclusions

Analyzing the changes in the institutional architecture of the social protection systems in the interesting group of CEE11 between 2005 and 2014, some key elements have to be underlined.

First of all, even considering the objectives described above, the picture of the social protection system institutional architecture drawn for the whole analyzed group of CEE11 seems to be more cohesive in 2014, compared to the situation in 2005. The first “snapshot” made for this group in 2005 has indicated that 8 out of 11 countries showed the greatest similarity to the continental model of capitalism representing by Germany, and the rest three countries exhibited the highest similarity to another two countries and represented by those economies models of capitalism (Bulgaria and Poland to Italy, thus Mediterranean model and Estonia to Great Britain representing Anglo-Saxon model of capitalism). The second “snapshot” was made 9 years later when already nine countries have shown the greatest similarity to Germany and the rest two (Latvia and Romania) presented the highest similarity to the same Mediterranean model of capitalism—Italy. Moreover, in 2014 for the whole group except Slovenia, the least similar country was Sweden (Nordic model of capitalism), whereas in 2005, this indicator was much more dispersed, with the highest number of countries least like Great Britain.

Second, only in the case of one country (Bulgaria), the value of the similarity coefficient was lower than that of all four countries representing models of capitalism existing in Western Europe. For the group of six countries (Croatia, Estonia, Lithuania, Poland, Romania, and Slovakia), the value of the similarity coefficient calculated for the most similar country was higher in 2014 than in 2005—the fact that could be taken as at least indirect proof of some kind of institutional convergence of social protection system institutional area in those countries toward institutions existing in so-called “old EU.” In the case of Croatia, Estonia, Poland, and Romania, the dynamics of this convergence, measured by the value of the similarity coefficient, was double-digit. The most obvious and “natural” explanation of this convergence trend is the membership or pre-membership in the European Union. The exact and detailed information which illustrating the coefficient of similarity direction and the rate of growth change pattern for each of the analyzed countries are presented in Table 3.

Last but not least, it is worth to admit that in almost the whole analyzed CEE11 group, the similarity coefficient calculated for Great Britain in growing at a very fast pace. Only in the case of two countries (Bulgaria and Estonia), its value was lower by less than 1% in 2014 compared to 2005. In the case of the Czech

Table 3. Change of the coefficients of similarity between 2005 and 2014

| Country | Reference country | | | |
|----------------|-------------------|-------|--------|------|
| | Germany | Italy | Sweden | UK |
| Bulgaria | −4.1* | −16.6 | −6.7 | −0.4 |
| Croatia | 10.9* | 12.5 | −9.2 | 3.1 |
| Czech Republic | −9.2* | −18.7 | −3.3 | 19.9 |
| Estonia | 15.1* | 21.4 | −0.1 | −0.9 |
| Hungary | −8.5* | −8.3 | −10.2 | 12.8 |
| Latvia | −12.4 | −1.6* | −4.5 | 1.2 |
| Lithuania | 3.8* | 7.2 | 1.0 | 18.8 |
| Poland | 10.5* | 2.7 | −6.8 | 14.1 |
| Romania | 12.5 | 15.6* | −0.4 | 8.2 |
| Slovakia | 6.3* | 13.1 | 12.5 | 23.3 |
| Slovenia | −7.9* | −16.5 | −10.8 | 13.8 |

Notes: Bold values indicate the double-digit change. * indicates countries with the highest similarity coefficient in 2014.

Source: The author.

Republic, Lithuania, and Slovakia, the growth rate of this similarity coefficient value was equal or even higher than 20%, for Hungary, Poland, and Slovenia was “only” double-digit. Consequently, as in 2005, the institutional architecture (both inputs and output side) of the Anglo-Saxon model of capitalism representing by Great Britain was least similar to 6 out of 11 countries in the analyzed group; in 2014, the same situation was characteristic only for Slovenia. Moreover, for Bulgaria, Czech Republic, and Lithuania, Great Britain became a second similar country, and for Croatia, Czech Republic, Lithuania, and Slovenia, the value of the similarity coefficient for the UK was higher than 60%. Again, it is probably too early to formulate such a conclusion, but this dynamic change of the social protection systems institutional architecture in some of the analyzed countries seems to be a kind of indirect proof of constant evolution of this institutional area toward the Anglo-Saxon model. Still, in 2014, in the case of this group, similarity coefficients are the highest compared to Germany, but the same analysis made especially for Czech Republic, Hungary Lithuania, Slovakia, and Slovenia could bring by far different results.

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Appendix

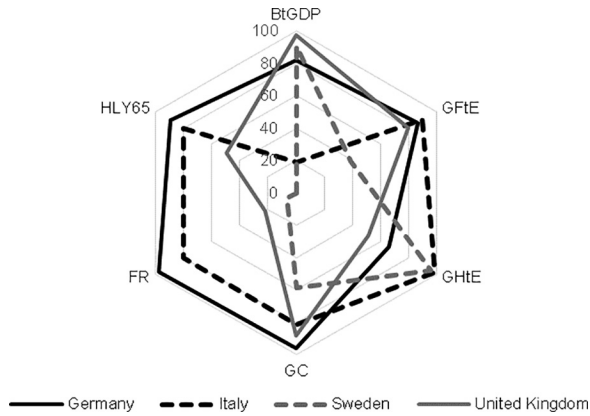


Figure A1. Croatia: hexagon of similarity for social protection system, 2014.
Source: The author.

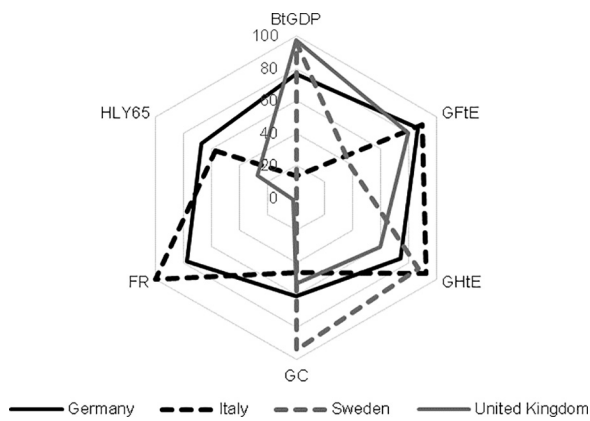


Figure A2. Slovakia: hexagon of similarity for social protection system, 2014.
Source: The author.

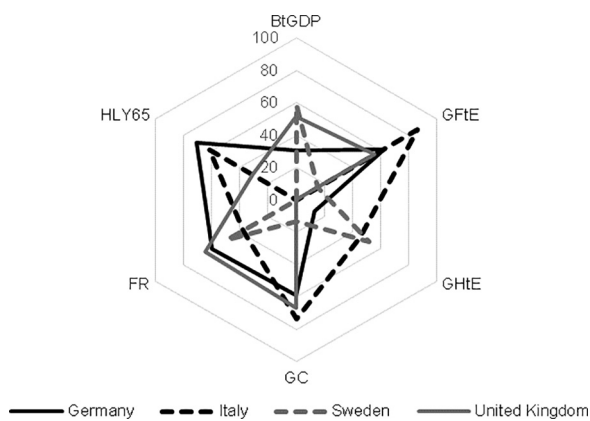


Figure A3. Latvia: hexagon of similarity for social protection system, 2014.
Source: The author.

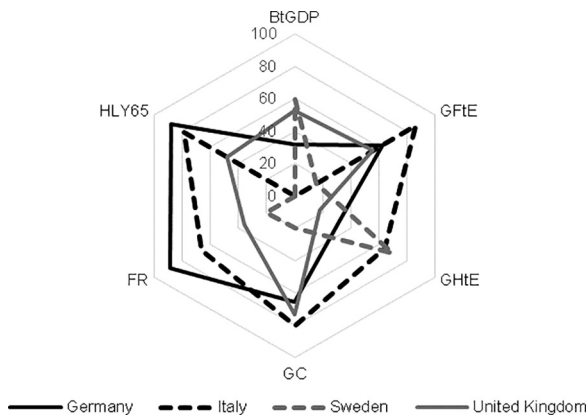


Figure A4. Romania: hexagon of similarity for social protection system, 2014.
Source: The author.

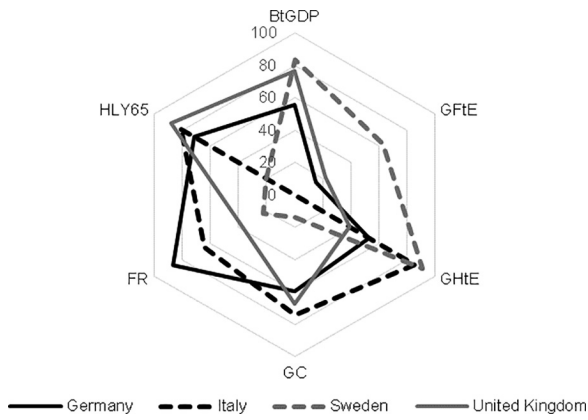


Figure A5. Bulgaria: hexagon of similarity for social protection system, 2014.
Source: The author.

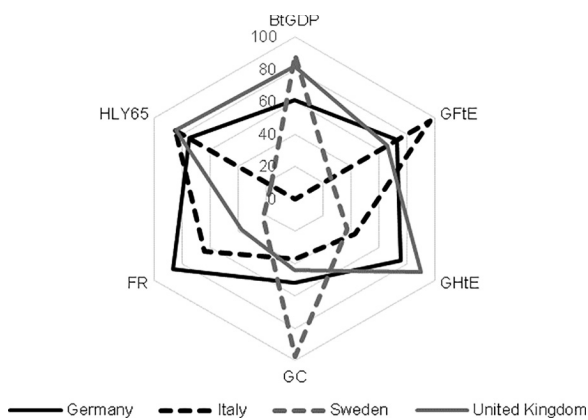


Figure A6. Czech Republic: hexagon of similarity for social protection system, 2014.
Source: The author.

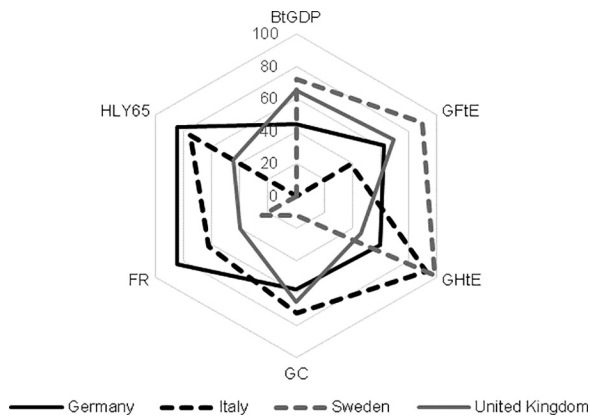


Figure A7. Estonia: hexagon of similarity for social protection system, 2014.
Source: The author.

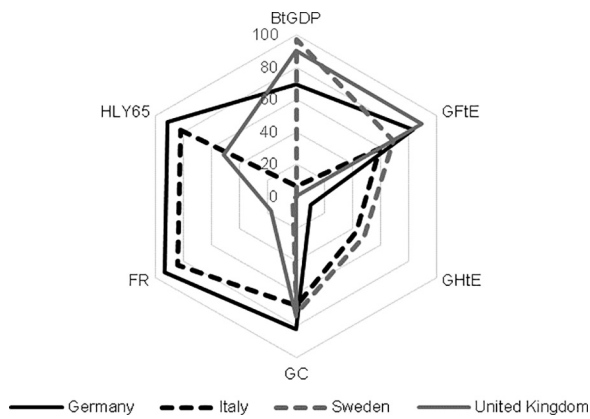


Figure A8. Hungary: hexagon of similarity for social protection system, 2014.
Source: The author.

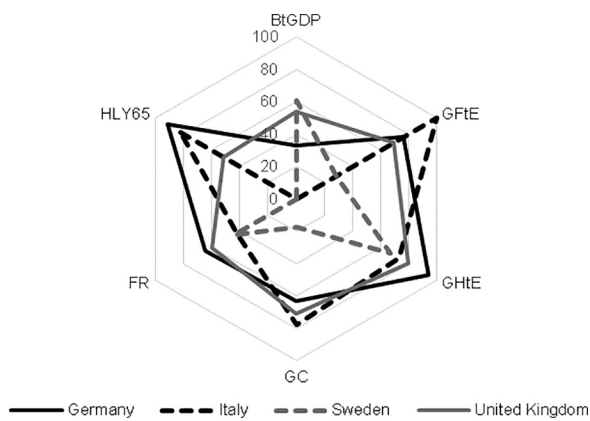


Figure A9. Lithuania: hexagon of similarity for social protection system, 2014.
Source: The author.

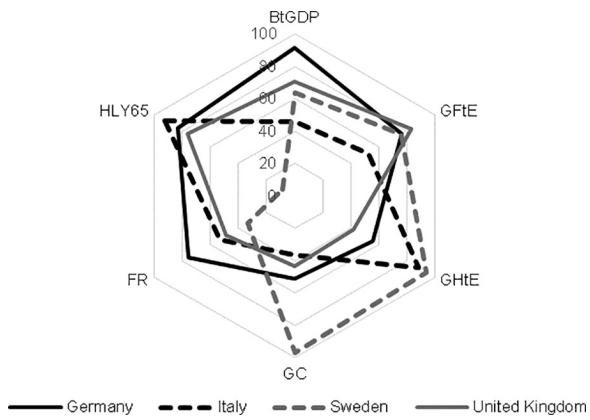


Figure A10. Slovenia: hexagon of similarity for social protection system, 2014.
Source: The author.