

HEALTHCARE IN THE WELFARE STATE: ASSESSING EMERGING WELFARE STATE TYPOLOGIES
IN EASTERN EUROPE USING HIERARCHICAL CLUSTER ANALYSIS

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A thesis submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Arts in the Department of Political Science, Concentration European Governance.

Chapel Hill
2016

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ABSTRACT

Sean Dillon Cheatle: Healthcare in the Welfare State: Assessing Emerging Welfare State
Typologies in Eastern Europe Using Hierarchical Cluster Analysis
(Under the direction of Gary Marks)

This paper analyzes welfare state groupings with several cluster analyses on the EU27 and the 10 Central and Eastern European (CEE) states admitted into the EU in 2004 and 2007 using 20 social policy and public healthcare indicators as variables. The focus is on delineating (a) the robustness of the CEE block in the EU27 and (b) the existence of distinct welfare and healthcare groups within Eastern Europe. I found significant quantitative evidence in the cluster analyses of both the eastern welfare state type in the EU27 and the existence of corporatist and developing welfare state types within the eastern welfare state type. Following the cluster analysis, I found significant evidence in my quantitative assessment and the literature on welfare states in Eastern Europe of informal payments, out-of-pocket payments, and public healthcare inefficiency at the state-level as the leading factors in the distinction of states within the CEE10.

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CHAPTER 1: CLUSTER ANALYSIS

1. Introduction

The objective of this study is to reassess welfare state models in Eastern European EU member states to test for variation both within the EU and within a subset of Eastern European states. Considering that welfare encompasses a broad range of public assistance and varies from direct cash transfers such as unemployment benefits to non-cash transfer services such as education, a comprehensive welfare state assessment is a lengthy and arduous process. Furthermore, several authors (Saint-Arnaud and Bernard, 2003; Fenger, 2007) have already reexamined welfare state models in the European Union and Central and Eastern European (CEE) states. Their methodologies typically involve aggregated metrics of welfare performance indicators such as social assistance transfers and female workforce participation rate. This study builds on their findings through including states that were previously omitted – such as Romania and Bulgaria which are now EU members – and examines how the public provision of healthcare varies as a key component of the welfare state. The development of CEE states provides insight into divergences in welfare state types as the CEE states share a communist past and roughly analogous EU accession timelines. It is important, therefore, to gauge the development of these states in line with each and with the EU as a whole.

In order to delineate this development in the field of public healthcare provision, I will employ hierarchical cluster analyses of the 27 EU states before Croatian accession and the 10 CEE states that gained admission in 2004 and 2007. The cluster analyses use data from the World Bank and Eurostat encompassing typical social policy indicators – long term unemployment percentage, citizens at risk of social exclusion, etc. – and public healthcare indicators – percentage of out-of-pocket (OOP) payments for healthcare services, infant mortality, etc. Before I examine the cluster analyses, it is important to assess the background for welfare state typologies and the literature concerning public healthcare provision in Eastern Europe.

Using Esping-Andersen's terminology, both Western and Eastern European continental states fall under the Bismarckian system of welfare capitalism in regards to public health (Saint-Arnaud and Bernard, 2003). Other social policy domains have been disputed in the two-and-a-half decades since he produced the *Three Worlds of Welfare Capitalism*, but healthcare warrants study for its idiosyncratic relationship with the welfare state in Europe (Bambra, 2007). The metrics are clear and the outcomes – from Life Expectancy (LE) to Healthy Living Years (HLY) – are well documented. Western and Eastern Europe developed similar welfare states and arguably analogous healthcare systems (Fenger, 2007). The salient difference between these systems, however, is efficiency; Eastern European states fall behind the retrenchment that has transformed Western European health insurance systems into the “Neo-Bismarckian” model that more closely resembles social democratic policies (Hassenteufel and Palier, 2007, 574). From the onset, it is important to note that the makeup of healthcare systems in Europe is highly heterogeneous in both Eastern and Western Europe – insurance policies, demographic changes, and rates of disease vary from state to state. This is not to say that comparative analysis is out of the question; there are several shared factors that make assessment of the intricate healthcare systems a worthwhile endeavor – namely, its place within the framework of social policies. Public health has a prominent position in the matrix of the welfare typology in every European state because of its significance as a public service. The overarching connection that makes comparative analysis of Eastern and Western European healthcare systems feasible, however, is the shared interaction between market forces and a system of stratified social contributions that give credence to claims that either side of the former Iron Curtain is Bismarckian (Hacker, 2009). Where policies implemented at the end of the Cold War brought Central and Eastern European states closer to their Western counterparts, there is still a striking discrepancy in the quality of healthcare between the East and West.

In Saint-Arnaud and Bernard's study of the robustness of Esping-Andersen's welfare typologies, they controlled for several categories of factors – including political participation and social class – but left healthcare indicators as an inferred property of social expenditure (2003). The prevalence of certain aspects in the welfare state, however, should not be overlooked; the Southern European welfare state, for example, is primarily defined through support for pensioners and low female workforce participation (Bricocoli et al., 2008; Carrera et al., 2010; OECD, 2004). The Bismarckian, or corporatist, model can

have its direct repercussions in financing public health and redistributing public services. It is important to note that the welfare states of continental Europe have changed significantly since Esping-Andersen's seminal *The Three Worlds of Welfare Capitalism* in 1991. Policies more closely resembling the social democratic type were adopted in formerly corporatist states – such as family policies in Germany (Ostner and Stolberg, 2015) and labor policies in the Netherlands (Headey et al., 1999) – but the stratified state of healthcare financing in continental Europe is an ongoing issue. Where most European states require the majority of healthcare expenditure – roughly 70% -- to be covered by public insurance, patients cover a marginal percentage of the cost of an appointment, prescription, or procedure. Although this is designed to reduce “moral hazard”, e.g. unnecessary visits and treatments, it can have a financially deleterious effect on patients below the poverty line or with chronic diseases (Honekamp and Possenriede, 2008, 414). This plays into welfare state typologies because the healthcare facet of a welfare state has redistributive effects, i.e. the healthy pay for the sick and the rich pay for the poor. The problem with the aforementioned gaps in public insurance, however, is that while healthcare in corporatist states adheres approximately to a redistributive model whereby citizens pay according to their financial means, this model does not account for an aging population that may become a burden for financing schemes over time (Honekamp and Possenriede, 2008). A plummeting fertility rate is hardly a Western European phenomenon as birth rates in formerly communist states have starkly declined since the fall of the Berlin Wall (Reproductive Health Matters, 2004). A transforming demography will prove to be a daunting challenge for the provision of social policy and may spark retrenchment in the case of healthcare – a public service that can prove difficult to finance yet is essential for an aging population.

Demographic change is a more tangible threat in Eastern Europe than in Western Europe due to the prevalence of informal payments for healthcare services. The challenge is not only a matter of financing but of the rights of citizens to receive adequate coverage when they are no longer in the workforce. In a sense, this connects to Esping-Andersen's emphasis on “decommodification” (1991) – older citizens in Eastern Europe should receive coverage despite an inability to pay out-of-pocket for pharmaceuticals and medical evaluations. The ethical ramifications of the presence of informal payments in healthcare in Eastern Europe range from a lack of access for impoverished citizens, the elderly, or patients with chronic diseases (Pitea, 2014). In some cases, patients may receive adequate care, but the

rights of a citizen to access a high level of healthcare should not be determined by an unequal and informal system.

1.1 Research Question

Since the 2004 and 2007 EU Enlargements, have the admitted Central and Eastern European (CEE) states gained parity in healthcare quality and social protection with Western European states? For that matter, are the former welfare state typologies resilient despite social and quality of life advancements in Eastern Europe?

2. Cluster Analysis of EU27

The purpose of this study is to analyze public insurance schemes, private financing, and the scope of coverage in Central and Eastern European states to uncover changes in welfare and healthcare typology since the 2004 and 2007 EU enlargements. The comparative context for this study is the EU27 and its Western European states with formerly corporatist welfare state typologies. This criterion includes the states Esping-Andersen classified as corporatist – Germany, France, and Belgium – in addition to the other typologies such as Southern European and social democratic models. Using hierarchical cluster analysis, I will assess the robustness of preexisting typologies – particularly those formulated in Saint-Arnaud and Bernard's (2003) and Fenger's (2007) assessments of welfare clusters – in order to identify emerging typologies. This study will account for states like the Netherlands that, while classified as a corporatist state in the early 1990s, have adapted social democratic policies since (Yerkes, 2011), in addition to states that formed neoliberal policies in response to austerity measures. In other words, the broad spectrum of typologies will be reassessed using classical metrics in tandem with new variables. Eastern Europe, as a whole, is more difficult to delineate due to the diverse states comprising the region as well as the confounding effect of EU membership. I will focus exclusively on Eastern European states

with membership in the European Union, excluding Croatia due to its later inclusion in the European Union, which puts it on a different timeline than the other CEE states. Effectively, this assessment will focus on the three segments of Central and Eastern European (CEE) states up to 2013: former soviet satellite states that attained membership in 2004 – Poland, Czech Republic, Slovakia, and Hungary; former Soviet and Yugoslav republics that attained membership in 2004 – Lithuania, Estonia, Latvia, and Slovenia; and, lastly, former soviet republics that attained membership in 2007 – Romania and Bulgaria.

Hierarchical cluster analysis is selected for this study due to its strength in classification and the methodological constraints of incorporating a maximum of 27 cases while measuring for covariance among 20 variables. In adherence with Kleinberg's theory, an unsupervised exploratory statistical method like cluster analysis is flexible to variance in parameters and variables (Carlsson and Mémoli, 2008). Hierarchical analysis and partitional analysis both have their benefits and drawbacks, but I employ hierarchical analysis in this study due to its reproducibility and capability of demonstrating more complex relationships (Jain, 2010). Furthermore, it would be more difficult to compare my findings with Fenger (2007) and Saint-Arnaud and Bernard (2003) if my methodology deviated too far their original studies. The time period for this study is the development of CEE states from 2004-2013, though the primary focus is on the status of welfare states as of 2013. The limit is 2013 because World Bank data for the countries included in this study is complete up to this year. Furthermore, an assessment of the welfare state types in Eastern Europe according to healthcare provision has not been conducted since the Euro crisis, and the robustness of previously delineated welfare states should be tested continually to measure for convergence and divergence and, ultimately, for progress in governance.

Germany and France are compelling examples of progress in public financing of healthcare through what Bruno Palier and Patrick Hassenteufel (2007) refer to as an emerging “Neo-Bismarckian” welfare state. While they make it clear that the welfare institutions have remained largely intact, the pertinent distinction is that through the structural change of interests and decision-making, more specialists have been introduced into public health leadership who are able to reorient state apparatus during market fluctuations. As paradoxical as it sounds, a “Neo-Bismarckian” healthcare state is one in which the state and market mechanisms are partners. It is plausible, after all, to have an unfavorable ratio between expenditure and outcomes – the United States, for example, spends 40% more per capita than

other industrialized states despite less than optimal outcomes (McIntosh, 2002). This process will be contextually explained in state-specific analysis, but the preliminary distinction is the appropriate management and capacity of resources for adequate public health. There are limits to the Bismarckian nomenclature in terms of healthcare, particularly when all healthcare systems in this study promise universal coverage. Conversely, the nature of welfare contributions is the key distinction between a Beveridgian and a Bismarckian system, and corporatist welfare financing schemes in tandem with informal payments lead to varying degrees of stratification. There is a problem, however, with the assumption that typologies are identical, as “welfare state models are tools, helpful instruments to sort out complex empirical data... not homogenous categories” (Steffen, 2010, 158). The CEE states, therefore, are not Bismarckian in the strictest sense but have much more in common with a corporatist welfare model than a social democratic model.

EU enlargement in 2004 – which included the eight aforementioned Central and Eastern European states – was the largest expansion in terms of population but not in terms of GDP (Europa, 2004). Lack of fiscal means is a part of the public health deficit in Central and Eastern Europe, but it is not the most encumbering factor. Rather, political entrenchment and institutional inefficiency pose a greater challenge for maximizing coverage and financing public health (Müller-Nordhorn et al., 2012). Economic conditions can dictate public health, and the staggered economies of Central and Eastern European states admitted in 2004 and 2007 have to engender economic growth to narrow the chasm between the East and West. It is important to note that the Global Economic Crisis of 2008 had a particularly deleterious effect on CEE states, where FDI flat lined, leading to a greater dearth of accountability in state politics and a decline in capital (Popescu, 2014). The focus of this study, however, is on the financing of public health and the development of clusters of admitted states into the European Union. Admission into the European Union is crucial considering that it acts as “the principal cause of FDI flows into the CEE” as well as the primary mechanism for economic integration among CEE states (Popescu, 2014, 8151). These states commenced economic reformation at roughly the same time, which facilitates the isolation of data on public health – instead of working with more than half a century of economic and political divergence, this study only has to consider several decades.

Considering the complexity of these healthcare systems and the comparatively analogous state of economic growth between CEE states, the focus of the hierarchical cluster analysis limits economic indicators. Assessing GDP per capita in PPS is relevant to this study in analyzing cross-cluster differences, but – in adherence with Saint-Arnaud and Bernard's (2003) reassessment of Esping-Andersen's typology – relying on economic metrics puts too much of the emphasis on growth and not on more nuanced indicators relating to public health policy. The variables chosen for the hierarchical cluster analysis, therefore, are relatively independent of economic growth indicators. Instead, I combine the social policy indicators used in Saint-Arnaud and Bernard's 2003 study on the resilience of Esping-Andersen's typologies, but omitted their indications on the longevity of particular social policies and the political participation variables. Saint-Arnaud and Bernard measured longevity as the years since introduction of a given social policy and used political participation variables to assess distinctions between liberal and social democratic regimes (2003). Seeing as the concentration of this study is CEE states that reoriented social policies following the fall of the USSR, the age of certain policies is irrelevant because most CEE states implemented them around the same period. The transition to a market economy and the complete reformulation of social policies was heterogeneous within the CEE states but appeared homogenous when compared to other European states at a macro level (Pestoff, 1995). Furthermore, political participation variables and larger questions of democratic legitimacy are outside of the perimeters of this study. In order to maximize the pertinence of each variable in delineating healthcare and social policy typologies, I used 20 variables in the hierarchical cluster analysis – 11 social policy variables and 9 healthcare and quality of life variables. Data was collected from the World Bank and Eurostat databases for the year 2013, approximately a decade since Saint-Arnaud and Bernard's study.

There is disparity in quality of healthcare amongst CEE states – where economic conditions regarding FDI and GDP growth are analogous – thus making a study in comparative politics pertinent. Table 1 delineates the variables for the hierarchical cluster analysis between welfare state indicators – used in Saint-Arnaud and Bernard's and Fenger's respective studies on welfare typology – and healthcare quality indicators, which are integral in forming a welfare state typology around public health.

Concerning the variables, Healthy Life Years (HLY) was established in the Lisbon Strategy (2009) as a "structural indicator" for quality of life and progress in healthcare (European Commission, 2009).

While there is a discrepancy between HLY and Life Expectancy (LE) as an indicator by state (Jagger et al, 2011), both metrics are useful for measuring healthcare outcomes but may reveal discrepancies between states. Regional differences reveal that Eastern and Southern Europe has a comparably shorter average life expectancy and healthy life years than Western Europe (World Health Organization, 2009) and that Eastern Europe may have a comparably longer life expectancy but proportionally less average years without illness. Newly admitted states lower regional averages, but this does not entirely account for the inequality. Poland gained full EU member state status over a decade ago, yet suffers from the “lowest health expectancies, however measured” (Jagger et al, 2011, 1030). While inequality may fluctuate over time due to economic integration, market oscillations, and certain cohesion policies (Barry, 2003), the persisting disparity between the East and West warrants assessment of public healthcare financing and outcomes.

<i>Welfare State Indicators</i>
Government expenditure (% of GDP)
Government expenditure on education (% of GDP)
Subsidies and transfers (Social Security and Social Assistance as % of government expenditure)
Total tax rate (% of commercial profits)
Female workforce participation rate (% of female population between 15 and 65)
Unemployment rate
Long term unemployment (% of total unemployment)
Gross enrollment ratio in primary and secondary education in Gender Parity Index (GPI)
Gross enrollment ratio in tertiary education (GPI)
Participation rate in education and training (All age brackets and genders)
People at risk of poverty or social exclusion (% of total population)
<i>Public Health and Healthcare Quality Indicators</i>
Health expenditure (% of GDP)
Out-of-pocket (OOP) health expenditure (% of private expenditure)
Private health expenditure (% of GDP)
Physicians per 1000 people
Health expenditure per capita in US\$
Life Expectancy (LE) in years at birth
Health Living Years (HLY) in absolute value at birth
Self-reported unmet needs for medical examination due to costs (at lowest income quintile)
Infant mortality per 1000 live births

Table 1: Welfare and Public Health Indicators for Hierarchical Cluster Analysis (World Bank, 2013; Eurostat, 2013)

Furthermore, several variables were omitted in previous cluster analyses, but are essential in determining the quality and type of care, particularly in Eastern Europe. Out-of-pocket (OOP) payments and private health expenditure play significant market roles in defining healthcare coverage and stratifying the quality of care according to ability to pay. Other variables are relatively new metrics for analyzing public health policies. HLY, for example, can be utilized with other quality of life metrics as EU structural indicators of the aggregated health quality of a state. HLY is particularly pertinent because it is an amalgamation of metrics for chronic disease and measures the average quantity of disease and illness-free years for a citizen of the European Union, thus combining well with other healthcare metrics. While HLY may not be appropriate for a small quantity of homogenous states, differences in the EU27 and the CEE states may be idiosyncratic enough to distort a more straightforward indicator, like life expectancy, which does not directly account for the prevalence of chronic diseases in certain states. HLY, on the other hand, is a relatively simple metric that has the utility of life expectancy – calculated for cross national variances – and offers a reference point for all EU member states (Europa, 2009). In order to control variables to achieve a well-rounded analysis, I will utilize both HLY and LE in addition to infant mortality rate. Raftery and Dean (2006) advocate the use of multiple rotations of variables in order to reduce the number of variables down to the most essential set. While this selection process can be parsimonious, the nature of this paper including welfare state indicators and healthcare indicators warrants inclusion of additional variables. There are still limits, however, to the quantity of variables that can be added into a cluster analysis I omitted several variables – including perceived health status, prevalence of communicable diseases, and hospital assets – because these variables either confounded the clusters or were redundant and had significant covariance with other variables.

It should be noted that healthcare expenditure usually factors into social policy analysis due to its magnitude as an essential public service. Saint-Arnaud and Bernard included several healthcare indicators, including life expectancy and physicians per 1000 people, but omitted key indicators for underfunded and liberal healthcare schemes such as out-of-pocket expenditure, private expenditure, Healthy Life Years, and unmet needs for medical examinations. The focus of this study is broader in scope in order to determine the relationship between healthcare quality and welfare state typology. It incorporates more metrics regarding public health – particularly for Eastern Europe – in order to

determine how CEE states have developed since EU accession. Before narrowing typologies to the CEE states, it is important to apply the same methodology to assess the place of CEE states in a classification of the EU27.

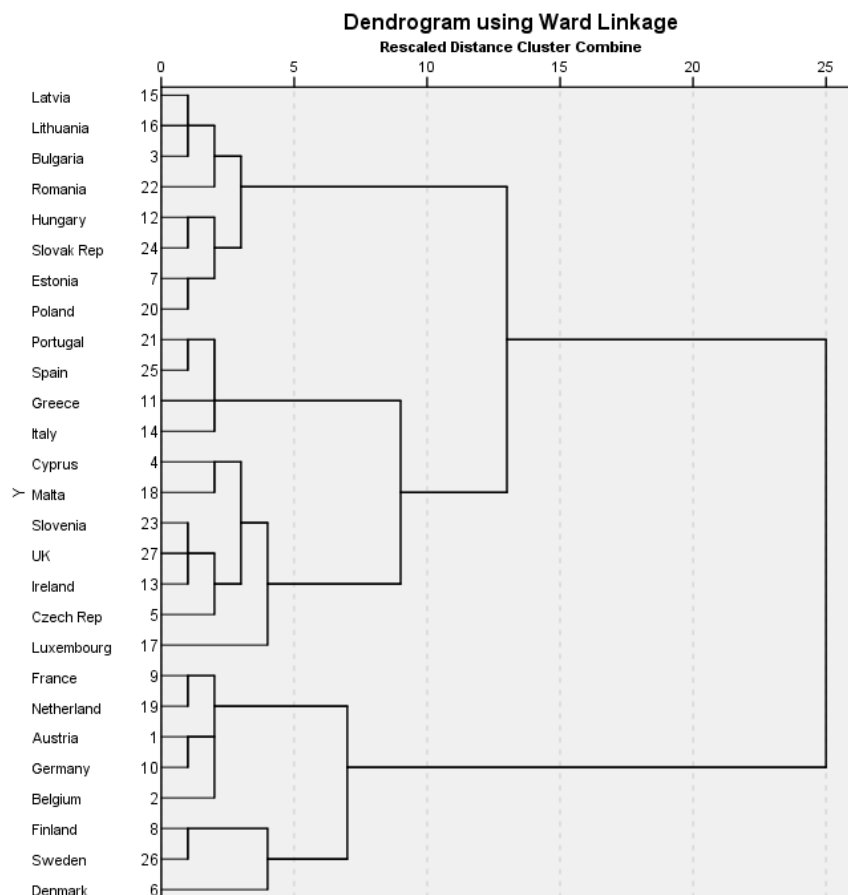


Figure 1: Cluster analysis of all variables for EU27 for 2013

Using SPSS and Saint-Arnaud and Bernard's methodology, I calculate a hierarchical cluster analysis dendrogram for the EU27 using the variables in Table 1. I standardize the measurements into a 0-1 ratio and used Ward's method – which incorporates the distance between variables as squared Euclidean in hierarchical clustering – in order to minimize the variance between variables (Lee, 2014). Subsequently, I checked co-linearity through running covariance analysis on the variables in SPSS. While there is no standardized cut off for a co-linearity coefficient in hierarchical cluster analysis, the few

variables exceeding 0.5 did so with a slight margin. Close variables, such as health expenditure as a percentage of GDP and health expenditure per capita in US\$, never exceeded a coefficient higher than 0.7, which makes them still feasible as variables in a hierarchical cluster analysis. Although both variables measure health expenditure, there is a difference between measurements as a percentage of GDP and per capita, as the former indicates aggregated public and private expenditure and the latter is a direct representation of the capacity for healthcare expenditure on an individual level. A covariance coefficient of 0.7 shows that the two variables partially explain each other, which is logical given that they measure expenditure at different levels. I used several aggregated variables – unmet healthcare needs for all ages and genders for example – which creates a better fit for cross-referencing states and maintains the parsimonious selection of variables. Female workforce stands out as a non-aggregated variable, but is also a strong indicator of welfare state typology – typically liberal or social democratic (Esping-Andersen, 1991; Warnecke, 2008). The variance in measurement units is controlled for with the aforementioned standardized range of 0-1, making percentages comparable with non-ratio metrics. Covariance was mitigated, therefore, through careful selection of variables.

Considering the clusters, there are several notable distinctions that verify previous cluster analyses while leaving certain factors ambiguous. First, it is important to note that formerly corporatist states are grouped together with social democratic states in the larger clusters. The bottom cluster comprises Sweden, Denmark, and the Netherlands but also France, Germany, and Austria. There is still divergence in social policies, but compared to the other states in the EU27, the discrepancy is modest as demonstrated by the horizontal distance between clusters. Although the Netherlands has demonstrated social democratic traits in more recent years – within the context of healthcare policies – it is closer to its corporatist roots (Yerkes, 2011). The addition of France, Germany, Austria, and Belgium in the lowest cluster indicates that within the context of the EU27, “Neo-Bismarckian” policies are bridging the gap between the Continent and Scandinavia. Also notable is the distinct Southern European cluster. Surprisingly, the UK, Czech Republic, Slovenia and Luxembourg are grouped together in one of the more complex clusters. This indicates that the Czech Republic and Slovenia – with all states compared – do not fall into the distinctly Central and Eastern European cluster. Keep in mind that the horizontal distance between clusters – as represented by the 0-25 scale on the top of the dendrogram – indicates the degree

of difference between the clusters. While there is a clear yet nominal difference between the Southern European and Eastern European clusters, there is a more significant degree of separation between these two clusters and the Scandinavian and “Neo-bismarckian” clusters.

3. Cluster Analysis of CEE10

The cluster analysis for the EU27 puts the CEE states in context, illustrating that while there is an independent cluster for CEE states, there is still variance within this cluster. Furthermore, several CEE states are grouped in different clusters. In order to explore this variance and categorize clusters within the CEE states, I conducted a subsequent cluster analysis on the ten CEE states using the same methodology. Figure 2 illustrates the differences in healthcare and social policies in these states. There are two primary clusters and three subgroups with a significant degree of variation within each level of the hierarchical clusters. The variables delineated in Table 1 demonstrate variation at the surface, but qualitative analysis is necessary in order to develop a more robust comprehension of the welfare and public health differences in these clusters.

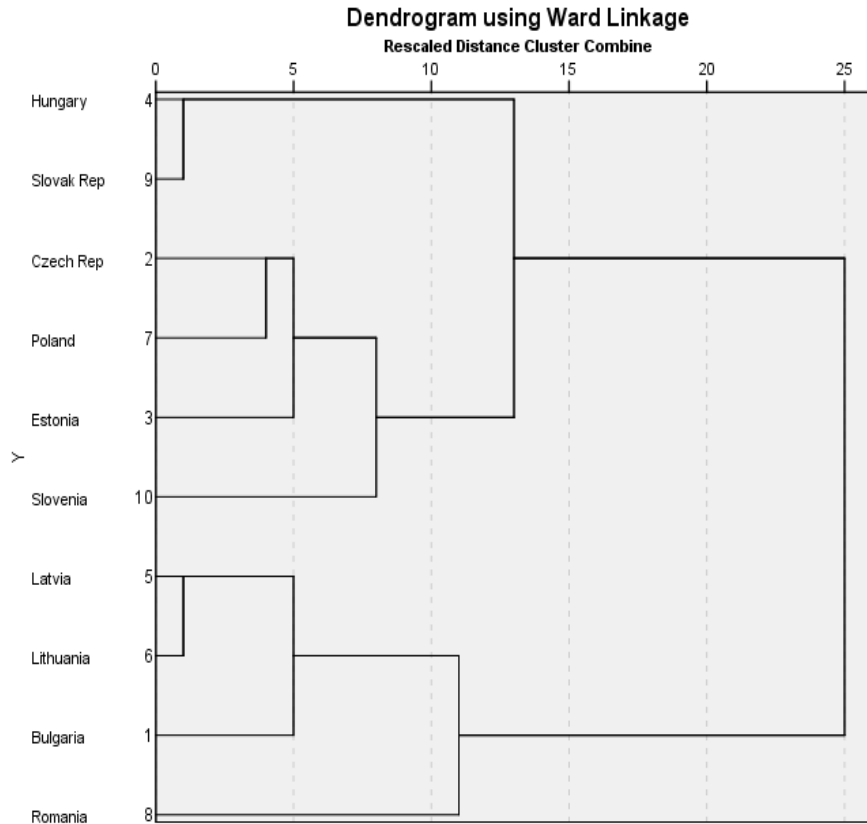


Figure 2: Cluster analysis of all variables for CEE10 for 2013

This dendrogram can be separated into two primary clusters with a distinct subgroup in the first cluster. The separation of clusters represents the differences in Euclidian distance between the states accounting for the 20 variables listed in Table 1. The two predominant clusters are distinguished as the corporatist states and developing states. The reason for this nomenclature is that the variables indicating social policy quality are taken from Fenger's (2007) study building on Esping-Andersen's typologies while the variables indicating healthcare quality are introduced to control for another group. Criticism of Esping-Andersen's work has ranged from the arbitrary distinction of typologies to omission of gender and regional indicators (Bambra, 2007). This study adds to this range through the addition of Fenger's "developing cluster" (2003, 2). But while Fenger's developing cluster consists of Romania, Moldova, and Georgia, my cluster analysis of the CEE10 in the European Union reveals that Latvia, Lithuania, and Bulgaria are closer to Romania than to the more corporatist states.

Esping-Andersen used averages and a single standard deviation to separate 18 OECD states into three separate groups. What this study does, in a similar fashion to other critiques of Esping-Andersen's methodology, is expand the range to account for another group. This separates the CEE10 into developing and corporatist states, with a subdivision of informal corporatist states acting as the middle group. The analysis of the groups, therefore, is divided into three distinct sections: formal corporatist states, informal corporatist states, and developing states. The cluster analyses demonstrated the quantitative difference between the clusters, but do not illustrate the details. In other words, qualitative assessment in tandem with outcomes from the analyses is warranted to unpack the depth and nature of the differences.

In the following chapter I examine the characteristics of the two groups beginning with the Visegrád states, Estonia, and Slovenia – separated into formal and informal corporatist subgroups – then assess the developing cluster.

CHAPTER 2: ASSESSMENT OF CLUSTERS

1. Introduction

Before analyzing the peculiarities of the clusters, it is integral to first establish one of the most salient distinguishing features of the two primary clusters – the staggered EU admission. While assessment of healthcare policy on a supranational level is a burgeoning development, and there is evidence of a top-down effort to regulate healthcare standards, current measures in healthcare development lie at the state level (Vollaard et al., 2016). Previous reactions to the enforcement of supranational rights, on the other hand, have been largely uncooperative as governments instead opt to oppose EU institutions (Greer and Rauscher, 2011). Standardization of healthcare access in the European Union, therefore, is a promising development, but has little effect on the convergences and divergences present in the cluster analyses.

Concerning the different timelines of EU admission, there are significant differences in economic growth and democratic accountability both between the 2004 and 2007 enlargements and among the enlargement countries. Differences in per capita GDP adjusting for purchasing power are accounted for in Table 2, and they illustrate the diversity in growth rates and per capita wealth. According to the European Commission's evaluation of the fifth enlargement, access to the single market and cohesion policies will have similar economic effects on Romania and Bulgaria as they did on the 10 states admitted in 2004 (Breuss, 2009). Considering the relatively short difference in admission timelines, idiosyncratic indicators such as government efficiency and the presence of private financing will have a greater effect on the quality of healthcare than a marginal difference in access to the single market. The larger economic implications of EU accession are not within the confines of this paper. Rather, the variables included in the cluster analyses and the subsequent qualitative assessment indicate the characteristics of states and not a supranational system.

The first cluster is comprised of the Visegrád states, Slovenia, and Estonia. The Visegrád Group, or VG, (Czech Republic, Slovakia, Hungary, and Poland) was the most immediate turnaround towards a more Western European system of social policy following the fall of the USSR and was formed predominantly as an instrument of “preaccession” (Dangerfield, 2008). In other words, the VG as a political entity served to expedite entrance into the European Union. Within the context of the welfare state, the Visegrád states are adjoined by Estonia and Slovenia, which harbor similar systems and problems from the vestiges of Soviet governance. The complete retrenchment of the welfare system from a state-directed, communist system, to a Bismarckian system, created an opportunity to transform the formerly dysfunctional institutions of public health and social security into more effective organizations.

While authors have disputed the typologies of the Visegrád Group, Bruno Palier (2010) argues that the Bismarckian institutions put in place before communism were altered but not destroyed during the Soviet Union, and persisted into European Union accession. Furthermore, Palier states that the “Bismarckian institutions...succeeded in surviving the, perhaps, even more rapid structural transformation following the dissolution of the central planned economy” (Palier, 2010, 234-235). This designates that social benefits structured in regard to occupation persisted through the privatization and recalibration of the state that occurred after the Visegrád states gained independence and subsequently joined the EU. Why group together culturally and politically diverse states? Forming the Central European Free Trade Agreement, the Visegrád states joined the EU in 2004 with similar economies and a degree of preexisting political solidarity (Medvec, 2009; Novák, 2010). Given the geographic proximity and overlap in supranational political institutions, it is common for health professionals in the states to mobilize in protesting healthcare financing conditions (Prague Post, 2012). Furthermore, although the economies were similar in the development process a decade ago, the four states have now diverged, developing different economies and political systems. In regards to public health, the states have retained key Bismarckian aspects while making moderate changes to financing and scale of coverage. Although Slovenia and Estonia are not part of the political grouping that is the Visegrád Four, here, I argue that they share enough welfare and healthcare characteristics with the Visegrád states to form a corporatist cluster composed of two subgroups.

2.1 Formal Corporatist Subgroup: Czech Republic, Estonia, Slovenia, and Poland

Following admission into the European Union, the Czech Republic overhauled its healthcare system, introducing a “new risk adjustment scheme” in 2005 for insurance contributions – in line with a more social democratic system in which the welfare state adapts to New Social Risks – while later initiating user fees for doctor visits, prescriptions, and hospital stays in 2008 (Cerami, 2008; Kinkorová and Topolcan, 2012). These changes denote some of the confusion around welfare state typology as the Czech state effected a social democratic retrenchment for emerging risks while enforcing a more liberal market policy of patient co-funding for prescriptions and doctor visits. Concerning the overall financing of the Czech healthcare system, public health insurance covers 76.6% of financing, and nine insurance companies in total provide mandatory health insurance with the patient retaining the choice of coverage (Kinkorová and Topolcan, 2012). In the climate of the Visegrád states, the Czech Republic has the most advanced system, ensuring a comparatively high level of coverage and quality for its citizens. In comparison to neighboring states, the Czech Republic’s adjustment to a market economy was smoother due, primarily, to the importance of social policy to the transitioning administration (Aspalter, 2009). The Czech state, however, has a particular location in social policy and healthcare clusters. Figure 1 illustrates the Czech Republic’s place in the EU27 – in the same cluster as historically liberal states Ireland and the UK. Yet when compared to other CEE states, the Czech Republic falls into the formal corporatist cluster. The nuanced positioning of the Czech state relates both to neo-liberal reforms undertaken in the 1990s and the advancement of formerly liberal states towards more advanced social policies in recent years (Potůček, 2004). It makes sense, therefore, that the Czech Republic would fit into the formal corporatist cluster in the CEE10 analysis but place into a different cluster in a larger analysis of the EU27.

Estonia’s healthcare system is closely related to the Czech system – out-of-pocket expenses have been steadily increasing with the introduction of more private insurance plans but informal payments play only a marginal role in the system (Lai, 2013). Beyond descriptive statistics, this is a significant qualitative digression from the other CEE states since informal payments are difficult to assess – data on informal payments is approximate and changes slightly according to source. The important aspect, however, is that where informal payments are essential to maintain the current level of care in Hungary

and Slovakia, in Estonia, only 2-3% of patients admitted to making informal payments to improve the speed and level of care (Kakuk and Domjăn, 2013; Lai, 2013). The low rate of informal payments works in tandem with Estonia's proclivity towards reforming the healthcare system, as it was the first post-Soviet state to institutionalize family medicine reforms (Atun et al., 2006). Concerning the cluster analysis, for out-of-pocket expenses and private options, Estonia is closer to the VG than its Baltic neighbors.

Slovenia is unique in this study in that it is the only former Yugoslav republic included in the 2004 EU enlargement – Croatia did not join until 2013. Yet due to its geographic location in Central Europe, proximity to Visegrád states, and communist history, Slovenia warrants inclusion into a study of healthcare systems in CEE states. Furthermore, Slovenia's healthcare and social policies are analogous to other frontrunners in the Visegrád cluster. Like the Czech Republic, in the EU27 analysis Slovenia placed in to the same cluster as Ireland and the UK. In terms of economic growth and wealth, Slovenia fits into the higher range of CEE states (see Table 2 for GDP per capita in PPS). The criteria with which Slovenia was admitted into the EU were similar for other CEE states, and it has had a decade to improve its healthcare system and change its welfare model. When Slovenia joined the EU in 2004, its life expectancy was considerably higher than the other states admitted but lower than the average for pre-2004 EU states (Albrecht, 2009). Slovenia was the first of the states admitted in 2004 to enter into the Euro zone in 2007, which indicates its relative economic power (Europa, 2015).

Concerning the nature of its welfare system, Slovenia benefitted from being one of the more economically balanced states in Central Europe, successfully transitioning from a communist Yugoslav republic to a more Western model of "neo-corporatism" (Bohle, 2007, 89). Despite its early success and advantaged position among CEE states, Slovenia experienced a financial crisis in 2013 in which the government had to recapitalize several large banks due to lack of capital (The Economist, 2013). Additionally, Slovenia has undergone democratic regression as a result of its haphazard political development since EU accession, in which there are few institutions protecting constitutional rights (Bugaric and Kuhelj, 2015). Yet in a similar fashion to Hungary, dilapidation of healthcare provisions is more a result of overarching trends than any particular political administration. In relation to typologies, the Slovenia National Health Insurance Institute administers relationships with public and private partners. As a typical corporatist system, private providers are organized around groups delegating to professional

associations, thus providing a hierarchical system of coverage (Aspalter et al., 2009). Since 2008, the system has been mismanaged, however, as a mixture of universal coverage and private health care provision resulted in the reduction of one third of health professional (Aspalter et al., 2009). Despite its current position as a frontrunner of other CEE states, Slovenia provides a fascinating perspective into how health provision systems can become less efficient over time. Even though Slovenia is grouped in another cluster in the EU27 analysis, it may be closer to the other Bismarckian CEE states than previously imagined, though informal payments play only a marginal role in its financing scheme, connecting it to the Czech Republic and Slovenia.

Poland, the most independent Visegrád state, is similar to other CEE states in that, politically, its health care system promises a universal high level of coverage financed primarily – 70% of health expenditure is public of which 83.5% is from public health insurance – by the government (Panteli et al., 2011). In practice, Poland suffers from a high rate of out-of-pocket coverage for pharmaceuticals and informal payments for coverage (Panteli et al., 2011). At the time of EU accession, Poland was undergoing a dramatic shift in its healthcare system as the new administration grappled with financing issues ranging from an escalating health budget deficit to underpaid health professionals (Burgermeister, 2004; Baginska, 2004). While part of the problem stems from lack of resources to provide adequate funding, the Polish healthcare system also suffers from structural inefficiency – the mixture of private and public options funded under the Law of Universal Healthcare of 1997 is organized through semi-independent funds connected with regions delineated by population (Kozierkiewicz, 2005). The conditions for benefits were ambiguous to the extent that patients were unsure of what procedures and pharmaceuticals were covered under the law and excess charges were billed directly to the patient (Kozierkiewicz, 2005). In the decade since the National Health Fund commenced operations as a centralization of healthcare administration in 2003, out-pocket-payments have dropped by 4% and primary care has advanced significantly yet the state still struggles to finance long term and specialized care (OECD, 2015; European Commission, 2013). The state has sustained economic growth through the 2008 financial crisis but suffers from misallocation of government funds on defense and administration over social spending and healthcare (Gurgul et al., 2011). Poland struggles with similar issues to the other corporatist states but is also trends toward the neo-liberalism more than the other states in the

cluster. The state has, however, made incremental improvement in recent years with reformed healthcare administration.

2.2 Informal corporatist subgroup: Hungary and the Slovak Republic

The informal corporatist subgroup has similar characteristics to its formal counterpart, but suffers from a greater rate of informal payments in healthcare stemming from underfunding and mismanagement of public health insurance policies. While this subgroup only contains Hungary and the Slovak Republic, it warrants analysis due to its place as a halfway point between the formal subgroup and the developing cluster. Furthermore, every state in the CEE10 except for Slovenia developed from the same “Semashko-style” public health system, and it imperative to understand the differences between states a quarter century since the fall of the USSR and roughly a decade since EU accession.

Hungary has taken similar steps to other VG states from a “Semashko-style” centralized healthcare system to a more flexible payment system based on outcomes (Gaál et al., 2011). In the post-USSR era, the Hungarian system underwent several expansions and cuts, oscillating every few years to manage healthcare demands with relatively modest resources. On the surface, the Hungarian healthcare system has physicians with adequate training, modern medical technology, and reformed health laws in the guise of the European system. Unfortunately, the system is corrupted with “gratitude money” – infrequent patient contributions to health professionals for provided services (Kakuk and Domján, 2013, 264). The deleterious effect of these contributions is that the system is designed to enforce the notion of solidarity – the government standardizes costs and salaries in the healthcare industry – yet the quality of care can vary. Considering that the system is entirely public-financed, outside payments undermine the notion that everyone receives equal treatment. Instead, the system reflects the Slovak healthcare system, the only other state in the informal corporatist subgroup – in which corruption and informal payments have become standard. Given the state of underfunding in the Hungarian health system, the popular belief among health professionals is that the system would collapse without the aggregated support of informal payments (Gaál et al., 2011). On the political side of healthcare, Prime Minister Viktor Orbán used the financial crisis as leverage to enact a variety of reforms from 2010-2014, reforming the government and enacting both liberal and social democratic policies (Dorottya, 2014). While his changes in the democratic

process in Hungary have been controversial (Bos, 2013), the healthcare system persists with the same issues of corruption that have plagued it since EU accession in 2004.

Slovakia has a similar model guaranteeing universal care and competitive coverage, but has a more stratified system, with the government underfunding coverage for citizens unable to purchase insurance from a private company – the private insurance firm Dovera has a virtual monopoly on private insurance (Nemec, 2013). More alarmingly, illegal private payments permeate the market, as many Slovaks have to bribe healthcare providers in order to get proper care. Because of these glaring flaws providing universal coverage and the concomitant disparities in quality of healthcare provision, healthcare is the most corrupt social service in Slovakia (Nemec, 2013). Although the Czech Republic has a better-financed healthcare system and better economy, both states suffer from a lack of options for patients and out of pocket expenses. The Slovak Republic and the Czech Republic have a convoluted history, with the Czech Republic leading in economic development from the onset but with both states maintaining steady growth and withstanding the financial crisis of 2008 better than most other CEE states (Bolotov et al., 2013). Regardless, Slovakia trails behind the Czech Republic and the other formal corporatist groups in mitigating informal payments and out-of-pocket expenses enough to fall out of the cluster.

Despite certain divergences, the Visegrád states are remarkably similar in the extent of public coverage and chronic underfunding of healthcare services, which result in informal payments. Although the cluster is separated into two subgroups, with one subgroup sharing similarities with the developing cluster, it is distinct from the developing cluster. In other words, Hungary and the Slovak Republic have more in common with the formal corporatist subgroup than with the developing cluster. Overall, the Czech Republic and Slovenia stand out as the most advanced healthcare systems due to their comparatively low rate of both informal payments and legal limitations for out-of-pocket payments. This improved healthcare finance system may be the result of a better economic situation. Although this is a preliminary indication of economic differences, information collected by the World Bank in 2014 corroborates this theory, as the Czech Republic has the highest per capita GNI in the CEE10 (World Bank, 2014). Ultimately, the health systems of the Visegrád states, Slovenia, and Estonia were successfully transformed from 1989 through EU accession in 2004 – though not homogeneously and not yet up to the standards of Western Europe.

3. Developing Cluster: Latvia, Lithuania, Romania, and Bulgaria

Although the time period between enlargements was brief, there are tangible discrepancies in the quality of healthcare provided in the CEE states admitted in 2004. A large part of the Hungarian, Lithuanian, Polish, and Slovakian healthcare systems relied on informal payments to provide adequate coverage – a payment that naturally stratifies patients according to their ability to pay. Estonia and Czech republic, alternatively, have elements in their health systems that require out-of-pocket expenses, but compared to a system relying on informal payments, these systems have relatively more parity between patients. The Estonian system has undergone recent changes to its payment scheme that could put vulnerable groups at more risk. Together, the Baltic states have similar health outcomes to other CEE states but are distant from catching up to Western European and Scandinavian standards. Before the Second World War, Latvia and Lithuania were on par with the rest of Europe, but after falling behind after decades of mismanaged Soviet administration, they have to make cultural and social changes to close the gap (Barr and Boyle, 2001). In the 1990s, they collectively made considerable economic and quality of life advancements, drastically lowering mortality rates at all ages and boosting life expectancy for women and men by 2004 (Karanikolos et al., 2012; Polluste, et al., 2005). While Latvia and Lithuania have their idiosyncrasies, they have similar trajectories and analogous public health schemes.

Fenger's 2007 study at Erasmus University in the Netherlands emphasized a hierarchical cluster analysis on the CEE states in order to delineate distinctions between post-communist states by welfare regime typologies. Fenger discovered that there was a significant divide between the Central and Eastern European states that had attained membership in 2004, states that were aligned for EU accession in 2007, and CIS states that were currently ineligible for EU membership such as Moldova and Belarus (2007). The focus of this study, however, is how far the CEE states have digressed in the decade since 2004 in the understudied field of healthcare in social policies. Bulgaria and Romania, two states that were previously in Fenger's "developing" category, were at a disadvantage in 2007 with weaker economies and less time accessing the EU market (Fenger, 2007). It is important to make the distinction, however, that the disadvantage comes primarily from economic disparities than from the marginal time difference in EU accession between the 2004 and 2007 enlargements.

Like the Visegrád states, the Baltic States gained accession to the EU in 2004. The Baltic States have similar economies to the Visegrád states and share a history of USSR occupation. But two of the three Baltic States are grouped in the Developing Cluster due to OOP and inefficiency in delivering healthcare services. Corruption plagues CEE economic development to varying degrees and may overlap with healthcare provision in certain instances, yet Transparency International studies of corruption in the Baltic States and Poland reveal that healthcare efficiency does not align with my findings (Wolf, 2010; Swartz et al., 2010). Lithuania is less corrupt than Estonia or Poland in the frequency of unofficial payments to government officials yet suffers from greater inefficiency in healthcare services than either state. It is important, therefore, to distinguish unofficial payments in healthcare provision from greater political corruption. Lithuania suffers more so from disparity in quality of healthcare provision than issues of professional integrity.

At first glance, Lithuania is identical to the other 2004 members, with compulsory government insurance, out-of-pocket pay for pharmaceuticals, and high rate of informal payments for medical services (Murauskiene, 2013). Lithuania did, however, undergo a process of decentralization in healthcare that radically changed hospital ownership and administration, making the process of healthcare policy much more democratic leading up to EU accession (Bankauskaite and Jakusovaite, 2006). Like most other CEE states, the government was successful in disembarking from a centralized system and embracing its pre-communist Bismarckian roots. The downside to this new formation is a lack of coherent administration, which leads to subsequent difficulties in accessing equal healthcare. The result of the welfare state transformation, therefore, is inequality in level of service. Nowhere is this more apparent than in neighboring Latvia, where in 2013 the government opted out of a social health insurance scheme in favor of the National Health Service (NHS), which redirects the financing of healthcare services from general taxes and universal coverage – a social democratic model – to entitlements derived from income tax payments – a corporatist model (Mittenbergs, 2014). While it is unclear if the NHS will persist in spite of protests in favor of a more egalitarian system, this nonetheless reflects the most outwardly stratified healthcare coverage scheme in the Baltic States. This reflects Steffen's assertion of the complexity of healthcare systems (2010) beyond typologies as even though Latvia has the most technically Bismarckian system, it falls behind the other corporatist states and instead has more characteristics of

other states in the developing cluster. Before the introduction of the NHS, the Latvian healthcare system suffered from out-of-pocket payments and informal payments, which added up to the second largest financier behind public insurance for pharmaceuticals and doctor visits (Mittenbergs, 2012). The scope of this study extends to only a year after the introduction of the NHS and it is plausible that Latvia can reduce the prevalence of informal payments through this new system,

At a glance, Bulgaria and Romania are the outsiders in this study and come in with different systems – in the same vein of the United States and the UK in Esping-Andersen's *World of Welfare Capitalism*. One of the main criticisms of *Welfare Capitalism* is that the cut off distinguishing the UK as a liberal state was arbitrary, and under different measurements, the UK could have been categorized as a corporatist state (Bambra, 2007). Healthcare has a particular place in the welfare state, and over the decade since EU enlargement in CEE states major differences in quality of care and financing may have occurred. Romania and Bulgaria may be closer to already admitted CEE states than previously thought. Romania and Bulgaria are the poorest states in this study according to per capita GDP, but their admission into the EU sets them apart from other CIS states in that they have access to more capital and a larger, more technologically advanced market. Belarus and Moldova are omitted because they are outside of the scope of EU influence. It is important, therefore, to assess how their welfare systems have changed in regard to healthcare in the seven years since EU admission and the two decades since becoming independent.

Looking at the Purchasing Power Standard (PPS), a metric designed by the EU to gauge economic growth with an equitable rate of measurement, Romania and Bulgaria have closed the gap, increasing at a higher rate than Lithuania or Latvia (Eurostat, 20015). Furthermore, Romania and Bulgaria were the only states other than Poland to maintain growth in per capita GDP in PPS through the global economic crisis of 2007/2008. Roberts asserted in her health econometrics paper on OECD states (1999), that oscillations in healthcare spending are analogous to changes in per capita GDP. While she also admits the shortcomings of this correlation – and the possibility that healthcare spending is more flexible than per capita GDP, per capita GDP in PPS is an excellent preliminary indication of healthcare financing (Roberts, 1999). Table 2 shows the GDP per capita in PPS according to Eurostat data collected from 2004 to 2014. While Romania and Bulgaria have improved enough to share a cluster with Lithuania

and Latvia, they still fall behind other CEE states. Furthermore, there is a salient discrepancy between Romania and Bulgaria – both states started within a point of each other in 2004 but as of 2014 Romania leads by eight points. This validates the previously stated notion of welfare management over gross healthcare expenditure; Romania is wealthier than Bulgaria but falls behind when the study is adjusted for more variables.

	2004	2006	2008	2010	2012	2014
Bulgaria	35	38	44	45	46	47
Czech Republic	79	81	81	81	82	85
Estonia	55	64	68	63	74	76
Hungary	62	62	63	60	70	75
Latvia	47	55	60	52	60	64
Lithuania	50	56	63	60	70	75
Slovakia	56	62	72	73	75	77
Slovenia	86	86	89	83	81	83
Poland	49	50	54	62	67	68
Romania	34	38	48	50	54	55

Table 2: GDP per capita in PPS (Eurostat, 2015)

Like other CEE states, Romania had a Semashko style of centralized healthcare planning and financing. Romania is anomalous from other European states, however, in that its demography is shaped by emigration and a higher than average mortality rate (Vladescu, 2008). Furthermore, Romania spends significantly less than the EU average at only 4.4% of GDP on healthcare in 2004 and 5.3% in 2013 (Vladescu, 2008; World Bank, 2015). In comparison to the other CEE states in the EU, however, Romania's expenditure as a percentage of GDP hovers above the average of 5.1% (World Bank, 2015). This warrants mention because Romania was notorious for underfunding its healthcare sector and until recently, ranked last in the EU27 (Ivan, 2013). Qualitative analysis reveals larger problems in the Romanian healthcare system that are indicative of the decline of social policy effectiveness. Labor conditions continue to deteriorate, creating higher healthcare demand while many doctors are leaving Romania for better career opportunities in the EU, which is creating a healthcare system that lacks the capacity for adequate coverage (Stanciu and Jawa, 2013). The state is hesitant to attempt reorganization of the public health institutions such as the National Health Insurance Fund because of the concomitant fear of widespread layoffs (Ivan, 2013). Given the documentation of duplicate processes in the

bureaucratic structure, layoffs may yet be necessary (Purcarea, 2015). Overall, the Romania healthcare system represents the failure of a formerly communist system to enact social policy changes. The quality of coverage is low due to underfunding and lack of competition – circumstances that were common under the USSR (Fleck, 2013) – yet the available care is stratified according to OOP expenses and informal payments. The Romania model is, in many ways, the less effective manifestation of the Eastern European Bismarckian system, which works in some CEE states.

Bulgaria stands apart as the lowest per capita GDP of the states in this study as well as in the EU (Eurostat, 2015). It is important to note, however, that indicators do not tell the entire story. Slovenia may have had the highest per capita GDP upon entering the EU in 2004, but economic woes and a mismanaged public sector have encumbered development, putting Slovenia on a slower pace than other CEE states. As Table 2 demonstrates, Slovenia is the only state in this study to have a lower per capita GDP now than it did a decade ago. Although it still trails the other states, Bulgaria has increased by over ten points in the last decade (Eurostat, 2015). Yet there is still a significant chasm between Bulgaria and the average GDP per capita of CEE states at 70.5 points. Considering the financing of the healthcare system, the Bulgarian Ministry of Health dictates public health and coordinates with public – National Health Insurance Fund – and private insurance companies. At the time it joined the European Union, Bulgaria had a relatively large proportion of health expenditure as percentage of GDP at 7.3% in 2008 (Dimova et al., 2012). While out-of-pocket expenses for patients in the Czech Republic rarely exceed 10% of the negotiated cost for treatment, in Bulgaria, estimates place OOP payments at 36.5% of total healthcare expenditure (Dimova et al, 2012). Incorporated into this cost of OOP expenditure are informal payments – which account for half of private expenditure. Moreover, there is general consensus in Bulgaria on the necessity of informal payments in supporting the healthcare system (Atanasova et al., 2013). Overall, the Bulgarian system is at the extreme end of underfinanced public insurance schemes with informal payments for compensation. Yet there are signs of hope for the Bulgarian system as it pulls ahead of a better financed Romanian system.

Conclusion

There is wide variation in the empirical qualities of the ten CEE states admitted in 2004 and 2007, but in accordance with Fenger's assessment (2007) of post-communist states according to Esping-Andersen's types, these states mix elements of corporatist social policies with social democratic aspirations. The presence of universal coverage, however, is undermined by the state's inability to fully cover healthcare costs, leaving the remaining fees for the patient. The extent of coverage varies, with several states – Czech Republic, Slovenia, and Estonia – successfully mitigating the effects of informal payments on the system while some states – Lithuania, Bulgaria, Romania, and Latvia – rely heavily on informal payments. Trends in public health policies over the last decade reflect oscillations in policies from Slovenia's healthcare regression in the wake of a financial crisis to Romania's burgeoning commitment to increased healthcare financing and Bulgaria's rapid improvement since EU accession. As the qualitative section of this study makes evident, the CEE states that joined the EU in 2004 and 2007 have several structural similarities but idiosyncrasies that betray the simplicity of a single label. They are Bismarckian, but also share aspects of social-democratic policies and aspirations. Where coverage may appear identical in two states – such as Estonia and Lithuania – in reality, the quality of healthcare may vary as Lithuania relies heavily on informal payments and Estonia's system is predominantly formal.

The difference between informal and formal payments and public and private insurance options is the driving mechanism sorting the CEE states by healthcare and welfare policy. Some states offer multiple private insurance schemes to choose from, such as the Czech Republic and Slovakia, but no state offers a competitive private market. Lack of competition between government and private insurance schemes ensures that coverage is universal, but also creates an informal market where competitive prices still exist. Equal coverage is hardly social democratic if it only covers the bare minimum, and forces the patient to front any additional costs with out-of-pocket payments. This system is successful in the formal corporatist subgroup of the corporatist cluster because those states have the means to cover all ranges healthcare expenditure with a public insurance scheme tantamount to private options. There is enough funding and the quality of coverage is high enough to render competitive private schemes redundant, but enough diversity to cover for higher incomes. The rest of the CEE states, however, copy this system without possessing the financial means to deliver a high level of equal healthcare coverage.

In the informal corporatist subgroup, informal payments constitute a large part of the healthcare system but do not single-handedly support it. Rather, these states are in-between the well-financed schemes of the Formal Corporatist states and the underfunded, mismanaged coverage of the developing cluster. Over time, it will be fascinating to see if EU membership causes convergence between the different clusters or if the frontrunners join the “Neo-Bismarckian” Cluster to leave the Central and Eastern European Cluster behind. As of 2013, there is a clear hierarchy in CEE states, but only enough divergence for the Czech Republic and Slovenia to break the cluster in the framework of the EU27.

REFERENCES

- Aspalter, C., Jinsoo, K. and Sojeung, P. (2009), Analysing the Welfare State in Poland, the Czech Republic, Hungary and Slovenia: An Ideal-Typical Perspective. *Social Policy & Administration*, 43: 170–185. doi: 10.1111/j.1467-9515.2009.00654.x
- Atanasova, E., Pavlova, M. Moutafova, E. Kostadinova, T. Groot, W. (2013). Patient charges for health services: the opinions of healthcare stakeholders in Bulgaria. *The International Journal of Health Planning and Management*, 30: 232-245. DOI: 10.1002/hpm.2229
- Atun, R.A., Menabde, N., Saluvere, K. Jesse, M., Habicht, J. (2006). Introducing a complex health innovation – Primary health care reforms in Estonia (multimethods evaluation). *Health Policy*, 79, 79-91. doi:10.1016/j.healthpol.2005.12.005
- Baginska, E. (2004). Health care reforms in Poland. *Med Law*, 23, 745-51.
- Bambra, C. (2007). Going beyond *The three worlds of welfare capitalism*: regime theory and public health research. *Journal of Epidemiology and Community Health*, 61(12), 1098–1102. <http://doi.org/10.1136/jech.2007.064295>
- Bankauskaite, V., & Jakusovaite, I.. (2006). Dealing with Ethical Problems in the Healthcare System in Lithuania: Achievements and Challenges. *Journal of Medical Ethics*, 32(10), 584–587.
- Barr, D. A., & Boyle, E. H.. (2001). Gender and Professional Purity: Explaining Formal and Informal Work Rewards for Physicians in Estonia. *Gender and Society*, 15(1), 29–54.
- Barry, F. (2003), Economic Integration and Convergence Processes in the EU Cohesion Countries. *JCMS: Journal of Common Market Studies*, 41: 897–9. DOI: 10.1111/j.1468-5965.2003.00468.x
- Bohle, D. (2007). The State, Internationalization, and Capitalist Diversity in Eastern Europe. *Competition and Change*, 11(2), 89-115. DOI: 10.1179/102452907X181929
- Bolotov, I., Čajka, R., Gajdušková, K. (2013). The Economic Balance of the Czech Republic and Slovakia During the Economic Crisis. *Prague Economic Papers*, 4, 504-523. DOI: 10.18267/j.pep.465
- Bojan, B. (2015). Slovenia in crisis: A tale of unfinished democratization in East-Central Europe. *Communist and Post-Communist Studies*, 48.
- Bos, E. (2013). Hungarian Democracy in Crisis? Changes of the Political System in Hungary after Three Years Government of Viktor Orban. *Südosteuropa-Mitteilungen*, 53, 128-141.
- Breuss, F. (2009). An Evaluation of the EU' Fifth Enlargement With special focus on Bulgaria and Romania. *Economic Papers*, 361, 1-42. DOI: 10.2765/18250
- Bricocoli, M., Semenza, R., Santos, M.C., Bifulco, L. González, P., Guillén, A.M. Petmesidou, M., Santos, L.D., Lodovici, M.S., Monteleone, R., Greve, B., Sarasa, S., Colombo, A. (2008). Southern European Welfare States. *Social Policy and Administration*, 42, 103-209.
- Burgermeister, J. (2004). New minister to tackle Poland's healthcare crisis. *BMJ: British Medical Journal*, 329(7460), 252.
- Carrera, L. N., Angelaki, M., & Carolo, D. (2010). Political competition and societal veto players: The politics of pension reform in southern europe. *Rivista Italiana Di Politiche Pubbliche*, (1), 5-31.

- Carlsson, G. Mémoli, F. (2008). Persistent Clustering and a Theorem of J. Kleinberg. Retrieved from <http://arxiv.org/abs/0808.2241>.
- Cerami, A.. (2008). New Social Risks in Central and Eastern Europe: The Need for a New Empowering Politics of the Welfare State. *Sociologický Časopis / Czech Sociological Review*, 44(6), 1089–1110.
- Czech doctors to join visegrad four protest. (2012, Oct 31). *Prague Post* Retrieved from <http://search.proquest.com/docview/1124743644?accountid=14244>
- Dangerfield, M. (2008). The Visegrád Group in the Expanded European Union: From Preaccession to Postaccession Cooperation. *East European Politics & Societies*, 22, 630-667. DOI: 10.1177/0888325408315840
- Female Labour Force Participation: Past Trends and Main Determinants in OECD Countries (May, 2004). OECD Economics Department. Retrived from <http://www.oecd.org/eco/labour/31743836.pdf>
- Fenger, H. (2007). Welfare regimes in Central and Eastern Europe: incorporating post-communist countries in a welfare regime typology. *Contemporary Issues and Ideas in Social Sciences*, 3, 1-40.
- Fertility Rate Declines in Central and Eastern Europe after Communism. (2004). Fertility Rate Declines in Central and Eastern Europe after Communism. *Reproductive Health Matters*, 12(24), 228–228.
- Fleck, F. (2013). Rocky road from the semashko to a new health model. *World Health Organization.Bulletin of the World Health Organization*, 91(5), 320-321.
- Gaál P, Szigeti S, Csere M, Gaskins M, Panteli D. Hungary: Health system review. *Health Systems in Transition*, 2011; 13(5):1–266.
- Greer, S.L., Rauscher, S. (2011). Destabilization rights and restabilization politics: policy and political reactions to European Union healthcare services law. *Journal of European Public Policy*, 18, 220-240. DOI: 10.1080/13501763.2011.544502
- Gurgul, H., Lach, Ł., Mestel, R. (2011). The relationship between budgetary expenditure and economic growth in Poland. *Central European Journal of Operations Research*, 20, 161-182.
- Hassenteufel, P., Palier, B. [2007] Towards Neo-Bismarckian Health Care States? Comparing Health Insurance Reforms in Bismarckian Welfare Systems. *Social Policy and Administration*, 41, 574-596. DOI: 10.1111/j.1467-9515.2007.00573.x
- Heady B. Goodin, R.E., Muffels, R., [1999] *Real Worlds of Welfare Capitalism*. Cambridge: Cambridge University Press.
- Healthy Life Years. European Commission: Public Health. Retrieved from http://ec.europa.eu/health/indicators/healthy_life_years/index_en.htm
- Health in Poland (18 July 2013). European Commission. Retrieved from https://ec.europa.eu/europeaid/health-poland_en
- How does health spending in POLAND compare? (7 July 2015). OECD Health Statistics 2015. Retrieved from <http://www.oecd.org/els/health-systems/Country-Note-POLAND-OECD-Health-Statistics-2015.pdf>
- Jagger, C., Weston, C., Cambois, E., Van Oyen, H., Nusselder, W., Doblhammer, G. (2011). Inequalities in health expectancies at older ages in the European Union: findings from the Survey of Health and Retirement in Europe (SHARE). *Journal of Epidemiology and Community Health* (1979-), 65(11), 1030–1035.

- Jain, A.K. (2008). Data clustering: 50 years beyond K-means. *Pattern Recognition Letters*, 31, 651-666. doi:10.1016/j.patrec.2009.09.011
- Kakuk, P., & Domjam, A. (2013). Healthcare financing and conflict of interests in Hungary. *Cambridge Quarterly of Healthcare Ethics*, 22(3), 263-70. doi:http://dx.doi.org/10.1017/S0963180113000078
- Karanikolos, M., Leon, D. A., Smith, P. C., & McKee, M.. (2012). Minding the gap: changes in life expectancy in the Baltic States compared with Finland. *Journal of Epidemiology and Community Health* (1979-), 66(11), 1043–1049.
- Kinkorová, J., & Topolčan, O. (2012). Overview of healthcare system in the Czech Republic. *The EPMA Journal*, 3(1), 4. <http://doi.org/10.1007/s13167-012-0139-9>
- Kozierkiewicz, A., Trabka, W., Romaszewski, A., Gajda K., Gilewski, D. (2005). Definition of the “Health Benefit Basket” in Poland. *The European Journal of Health Economics*, 6, 58-65.
- Lee, A., & Willcox, B. (2014). Minkowski generalizations of Ward's method in hierarchical clustering. *Journal of Classification*, 31(2), 194-218. doi:http://dx.doi.org/10.1007/s00357-014-9157-8
- Magnien, F. (2002). The Measure of GDP per capita in Purchasing Power Standard (PPS): a statistical indicator tricky to interpret. *Organization for Economic Co-Operation and Development: Statistics Directorate*.
- McIntosh, M.A. (2002). The Cost of Healthcare to Americans. *JONA's Healthcare Law, Ethics, and Regulation*, 4(3): 78-89.
- Medvec, S. E. (2009). The European Union and Expansion to the East: Aspects of Accession, Problems, and Prospects for the Future. *International Social Science Review*, 84(1/2), 66–83.
- Mitenbergs U, Taube M, Misins J, Mikitis E, Martinsons A, Rurane A, Quentin W. Latvia: Health system review. *Health Systems in Transition*, 2012; 14(8): 1–191
- Mitenbergs, U., Brigis, G., Quentin, W. (2014). Healthcare financing reform in Latvia: Switching from social health insurance to NHS and back? *Health Policy*, 118, 147-152.
- Mladovsky, P., Allin, S., Masseria, C., Hernández-Quevedo, C., McDaid, D., Mossialos, E. (2009). Health in the European Union: Trends and Analysis. *European Observatory on Health Systems and Policies*. 1-156.
- Müller-Nordhorn, J. (2012). Perceived challenges to public health in Central and Eastern Europe: a qualitative analysis. *European Journal of Public Health*, 22, 254-255.
- Murauskiene L, Janonienė R, Veniute M, van Ginneken E, Karanikolos M. Lithuania: health system review. *Health Systems in Transition*, 2013; 15(2): 1–150.
- Nemec, J., Cankar, S.S., Kostadinova, D., Maly, I., Darmopilova, Z. (2013). How to finance health services: CEE experience with switch from “Semashko model” to health insurance systems. *ICCP Panel 67: Comparative Health Reforms in Central and Eastern Europe: Europeanization versus Subsidiarity*. Retrieved from http://www.icppublicpolicy.org/IMG/pdf/panel_67_s2_nemec_etal.pdf
- Nistor, I. A., & Vaidean, V. L. (2010). ECONOMETRIC MODELING OF ROMANIA'S PUBLIC HEALTHCARE EXPENSES - COUNTY PANEL STUDY. *Annales Universitatis Apulensis : Series Oeconomica*, 12(1), 460-466.
- Novák, T. (2010, Dec 13). *The Slovak Spectator*. Retrieved from <http://www.visegradgroup.eu/other-articles/divergence-in-economic>

- Ostner, I. (2015). Investing in Children, Monitoring Parents: Parenting Support in the Changing German Welfare State. *Social Policy and Society*, 14, 621-632. DOI: 10.1017/S1474746415000287
- Palier, B. (2010). A Long Goodbye to Bismarck? : the Politics of Welfare Reforms in Continental Europe. Amsterdam: Amsterdam University Press.
- Pestoff, V.A. (1995). Reforming Social Services in Central and East Europe: "Meso-Level Institutional Change After the Fall of Communism". *The American Behavioral Scientist*, 38.5, 788-806.
- Pitea, M., Cojocaru, D., & Oprea, L. (2014). ETHICAL ASPECTS OF INFORMAL PAYMENTS IN THE HEALTHCARE SYSTEM. *Revista Romana De Bioetica*, 12(4)
- Pölluste, K., Männik, G., & Axelsson, R.. (2005). Public Health Reforms In Estonia: Impact On The Health Of The Population. *BMJ: British Medical Journal*, 331(7510), 210–213.
- Potůček, M. (2004). Accession and social policy: the case of the Czech Republic. *Journal of European Social Policy*, 14, 253-266. doi: 10.1177/0958928704044623
- Popescu, G.H. (2014). FDI and Economic Growth in Central and Eastern Europe. *Sustainability*, 6, 8149-8163.
- Raftery, A.E., Dean, N. (2006). Variable Selection for Model-Based Clustering. *Journal of the American Statistical Association*, 101, 168-178. DOI 10.1198/016214506000000113
- Roberts, J. (1999). Sensitivity of elasticity estimates for OECD health care spending: analysis of a dynamic heterogeneous data. *Health Economics*, 8: 459-472. DOI: 10.1002/(SICI)1099-1050(199908)8:5<459::AID-HEC454>3.3.CO;2-L
- Sagan A, Panteli D, Borkowski W, Dmowski M, Domański F, Czyżewski M, Goryński P, Karpacka D, Kiersztyn E, Kowalska I, Księżak M, Kuszewski K, Leśniewska A, Lipska I, Maciąg R, Madowicz J, Mądra A, Marek M, Mokrzycka A, Poznański D, Sobczak A, Sowada C, Świderek M, Terka A, Trzeciak P, Wiktorzak K, Włodarczyk C, Wojtyniak B, Wrześniewska-Wal I, Zelwiańska D, Busse R. Poland: Health system review. *Health Systems in Transition*, 2011, 13(8):1–193.
- Saint-Arnaud, S. Bernard, P. [2003] Convergence or Resilience? A Hierarchical Cluster Analysis of the Welfare Regimes in Advanced Countries. *Current Sociology*, 51, 499-547. DOI: 10.1177/00113921030515004
- Stanciu, M., & Jawad, A. (2013). PUBLIC HEALTH SERVICES IN ROMANIA IN TERMS OF EUROPEAN POLICIES. *Journal of Community Positive Practices*, 13(1), 26-44.
- Statistical Offices of the European Communities (2013). *Regional Statistics: Reference Guide*. Luxembourg: Eurostat. Retrieved from ec.europa.eu/eurostat
- Steffen, M. (2010). Social Health Insurance Systems: What Makes the Difference? The Bismarckian Case in France and Germany. *Journal of Comparative Policy Analysis: Research and Practice*, 12, 141-161. DOI: 10.1080/13876980903076252
- Stressed Out (2013, Nov 30). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21590956-fight-avoid-sixth-euro-zone-bail-out-reaches-climax-stressed-out>
- Swartz, B., Wheat, J., Wadsworth, F. (2010). Corruption in the Baltic State Region. *The international Business & Economics Research Journal*, 9, 109-116.
- Szikra, D. (2014). Democracy and welfare in hard times: the social policy of the Orbán Government in Hungary between 2010 and 2014. *Journal of European Social Policy*. DOI: 10.1177/0958928714545446

The 2004 Enlargement: the challenge of a 25-member EU. EUR-Lex. Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV%3Ae50017>

The World Bank (2013) *World Development Indicators*. New York. Retrieved from data.worldbank.org

Vlădescu C, Scîntee G, Olsavszky V, Allin S and Mladovsky P. Romania: Health system review. *Health Systems in Transition*, 2008; 10(3): 1-172.

Vollaard, H., Martinson, D.S., van de Bovenkamp, H. (2016). The making of a European healthcare union: a federalist perspective. *Journal of European Public Policy*, 23, 157-176.

DOI: 10.1080/13501763.2015.1034160

Warnecke, T. L.. (2008). Women as Wives, Mothers or Workers: How Welfare Eligibility Requirements Influence Women's Labor Force Participation: A Case Study of Spain. *Journal of Economic Issues*, 42(4), 981–1004.

Wolf, S. (2010). Assessing Eastern Europe's anti-corruption performance: views from the Council of Europe, OECD, and Transparency International. *Global Crime* 11, 99-121.

Yerkes, M.A. (2011). *Transforming the Dutch Welfare State: Social Risks and Corporatist Reform*. Bristol: University of Bristol Policy Press.