Varieties of Capitalism, Varieties of Methods: Fitting the Empirical Data and Comparing Old and New Europe[1]

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Abstract

This study explores the contradictory classifications of the post-communist Europe in the Varieties of Capitalism perspective. The paper outlines several shortcomings that contribute to the discrepancy in the past classifications. The empirical part of this paper compares two methods of the coordination index construction, the factor analysis and our own alternative calculation. Subsequently we apply both of the procedures to two groups of countries, Western and Central Eastern Europe. This way we demonstrate that even when using the same input variables a slight change of method might result into different findings. In the end we therefore argue that the future studies be more careful in the methods used as well as the country and data selection. This could potentially help to improve the comparability and the credibility of the future findings and country classifications.

Keywords: *Central Eastern Europe, Varieties of Capitalism, Coordination index, Factor analysis*

JEL Classification: C18, F55

Introduction

Accession of the eight post-communist countries to the European Union in 2004 has caught attention of many political economists. The EU membership confirmed that the democratic institutions and the market economy, e.g. the capitalist society (Streeck, 2013) were fully developed. The question political science and political economy needed to answer was what type of capitalism has developed in the post-communist countries.

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In the recent research, many scholars arrived to the contradictory classification of the Central Eastern European (CEE) countries from the Varieties of Capitalism (VoC) perspective. The main goal of this paper is to compare the fit of the empirical data to the ideal types using two different methods. Firstly, we point out several shortcomings of the recent approaches and the most frequently used method – factor analysis. In addition to this method, we propose an alternative way to investigate the coordination, main concept of the Varieties of Capitalism by Hall and Soskice (2001). In the end we compare the result of the factor analysis and of the newly proposed method, as well as Western and CEE.

We admit that this paper does not present much of a contribution in the theoretical part of the capitalism research. However, this is not the aim of the study. The main contribution is thus our focus on the empirical and the methodological point of view.

The empirical research includes most of the EU member states and analyse them in two separate groups for the following reason. Comparing two different methods and two groups of countries allows us to better understand why discrepancies in the recent research emerged. The data covers two years preceding the economic crisis, e.g. 2005 and 2006. The reason is that for some type of indicators there are no later data available.

The structure of this paper is as follows. We start with the critical review of the recent literature on the Central Eastern European countries' classification. Subsequently, we discuss a few methodological shortcomings that might have contributed to the contradictory classifications in the recent research. In the empirical part of the paper we construct two coordination indices for two separate groups of countries – Western Europe and Central Eastern Europe. Doing this we demonstrate that even the slight change in methodology has consequences for the final results, using the same input variables and the same sample. The concluding part discusses the findings and their theoretical and methodological implications for the capitalism research in the post-communist Europe.

1. Theoretical Background

Varieties of Capitalism approach has developed around the institutional analysis, which assigns institutions a key role in the organization of market economy. The theory puts firms in the centre of the analysis. The key concept is the coordination of daily activities between firms, on the one hand, and other relevant economic actors, on the other hand. Hall and Soskice (2001) identified five crucial spheres of national economy where the coordination should take place. These are industrial relations, corporate governance, training and education,

relations with employees and inter-firm relations. Firms need to coordinate their activities in the mentioned spheres. However, they may do so in a different manner. According to Hall and Soskice (2001), different national economies developed distinct institutions that facilitate the coordination. In the ideal case, the institutions are mutually complementary which leads to the same type of coordination in all the spheres and thus creates an international comparative advantage for a given economy.

Hall and Soskice identified two ideal types of coordination based on the five spheres of economy. Market-driven coordination, typical of the liberal market economy (LME), is based on the free market, perfect competition, and formal contracts. Labour markets are flexible, education and training institutions are oriented towards formal education focused on general skills usable in many firms across sectors. Technology transfers take place mainly via relatively free movement of scientists and engineers from one company to others.

On the other hand there is the strategic coordination that is typical of the coordinated market economy (CME). In this type non-market and informal coordination dominates the socio-economic relations. Firms resolve their problems via strategic interaction within different types of networks or associations. Short-term profit does not play an important driver of the firms' business strategy, because there is a smoother access to the so-called "patient" capital (Hall and Soskice, 2001, p. 27). This form of cooperation also allows more effective coordination of standard-setting, vocational training, joint research and product development.

After the publication of the Hall and Soskice's seminal book and the EU eastward enlargement the scholarship focused on the research of post-communist capitalisms and explaining their similarities and differences using the old theories. Since this paper focuses on the attempts of fitting the Hall and Soskice's VoC typology to the CEE region, we will briefly review only the relevant literature. Although narrowed down as we did, the volume of work in this field still varies in both form and content – from case studies to analyses encompassing tens of post-communist countries.

Magnus Feldmann (2006) applies the VoC theory to compare Slovenia and Estonia. Feldmann shows that Slovenia has developed economic institutions corresponding to Hall and Soskice's CME type and Estonia could be placed on the other side of the continuum, close to the LME. Clemens Buchen (2005) uses as well a qualitative approach and comes to the same conclusion as Feldmann. They both argued that the rest of the EU New Member States fit neither into the ideal types by neither Hall and Soskice (LME or CME) nor they resemble other groups of Western European states that have been problematic to categorize (e.g. French etatist type Mediterranean type of Italy, Spain and Greece).

Bohle and Greskovits (2007) investigate how the EU New Member States managed the two opposing processes of transition: transformation of the economy from the central-planned to market-oriented and the social protection of citizens. Bohle and Greskovits argue that the eight countries developed different pace and grade of the institutionalization of the processes above. Based on this they identified three types of capitalism in Central Eastern Europe. The Baltic States developed a neoliberal capitalism with very low growth rates of industrial production, low level of complex products output, the strictest fiscal policy and the lowest level of social protection. In Slovenia the corporatist model emerged with high level of social protection, relatively high share of complex exports and generally being "*the least market-radical*" (Bohle and Greskovits, 2007, p. 462).

Visegrad Group countries, according to the authors, positioned themselves somewhere in between and are labelled "embedded neoliberal". Poland, Hungary, Czech Republic and Slovakia are more socially inclusive than the Baltics. These states introduced "*institutions of industrial policy… that make their neoliberalism embedded and distinctive*" (ibid.).

Vanhuysse's study (2007) touches upon the Varieties of Capitalism issue, although it focuses mainly on Trade Unions and labour decline. In an attempt to fit the EU New Member States into the VoC framework Vanhuysse comes to an agreement with the classification of Bohle and Greskovits (2007, p. 508).

Knell and Srholec applied the quantitative approach to the problem. They were among the first to grasp the coordination concept and come up with a numeric expression for it. Authors based their analysis on three different types of institutional arrangements: (1) social cohesion; (2) labour market regulations; and (3) business regulations (Knell and Srholec, 2007, p. 6). They produced a coordination index putting Slovenia and the Czech Republic towards the CME end of scale, while Estonia, Lithuania and Hungary ended as liberal economies according to their coordination index.

Another composite index was constructed by Baláž (2006). Baláž took into consideration the institutional arrangements in the following three areas: business environment, labour market environment and financial market environment. The analysis covered the then OECD members, which excluded the Baltic States and Slovenia from the analysis. Within the Visegrad Group countries, Poland seemed to be the most coordinated economy, while the Czech Republic was the least coordinated one. In his later work Baláž and his co-authors admitted that the local varieties of capitalism in the CEE countries might not be converging but rather diverged and taking on their specific forms based on the local peculiarities (Baláž, Kluvánková-Oravská and Zajac, 2007).

Baboš and Klimplová (2013) compared the Czech Republic and Slovakia using the expert survey and secondary statistical data. The authors concluded that the two CEE countries might be systematically uncoordinated in the way that strong, mainly multinational companies tend to keep their internal relationships with employees rather liberal while the external relationships (mostly with financial institutions, universities and state) rather coordinated by informal means.

In addition to the EU members, Lane and Myant (2007) included also other post-communist states (e.g. Southern Europe and former Commonwealth of Independent States (CIS) states). As the indicators they used measures of equity, forms of ownership, efficiency of economy, industry and expert structure and others, Lane (2007, pp. 35 – 36). Authors identified three groups of states according to the capitalism development.

The first one Lane calls state-led continental type of market capitalism. It includes the Visegrad Group countries, Estonia and Slovenia. According to Lane, these states approach level of marketization and privatization of OECD countries. However, they have more developed welfare state which makes them "distinct from the Anglo-American countries". Welfare state is to a considerable degree inherited from the socialist past and coordination is still dependent on the state. Bulgaria, Romania, Latvia and Lithuania belonged to a subgroup of states that have "lower levels of privatization and greater state coordination" (Lane, 2007, p. 35). This subgroup developed appropriate governmental, societal and political institutions only because of being "tutored by the conditionality requirements of the EU and the IMF" (ibid.).

The other two categories of Lane and Myant are hybrid state-market uncoordinated capitalism on the one hand, and countries that have not developed a capitalist system yet (Uzbekistan, Belarus, Turkmenistan) and are likely to remain statist economies, on the other hand. Since all of the ten post-communist EU members belong to the first group, we will not discuss the other two groups in a further detail.

As we demonstrated above, there is a discrepancy in the classification of the post-communist countries according from the VoC perspective. Specifically, the problem is that different scholars used different countries in their analysis and distinct indicators and measurements. Therefore the position of a given country might be very different across the literature. Bluhm speaks of "*contradicting classifications depending on which indicators are introduced*" (Bluhm, 2010, p. 199). Taking for example Estonia, it is classified as state-led/continental type by Lane (2007), while being an LME type by Knell and Srholec (2007). Latvia and Lithuania are labelled as Continental by Cernat (2006), while Knell and Srholec (2007) identifies the countries as LMEs. The next subsection points out a few pitfalls and discusses possible remedies.

1.1. Shortcomings and Suggestions

This subsection discusses the potential causes of the contradictory classifications based on the methodological viewpoint. This section also suggests an alternative path for the future analyses.

The most outstanding methodological problem in the capitalist research in the post-communist world is probably related to the measurement of the concept. More specifically, the issue is that different scholars use different indicators. For illustration, Knell and Srholec (2007) use measures of social cohesion, labour market regulations and business regulations; Bohle and Greskovits (2007) measure the outcomes of capitalist varieties by industrial development, marketization and social inclusion and Baláž (2006) takes as input variables the indicators of business-, labour market- and financial market environment. This contributes to the contradictions in the countries' final classifications.

Admittedly, it would be too ambitious to solve the ambiguity related to the data selection in this paper. However, we argue that there are a few improvements at hand. We suggest an approach that follows the logic of the VoC theory more closely. Hall and Soskice (2001) have identified, and more importantly, the mainstream literature has not rebutted, five spheres of coordination of economic actors. Therefore we argue that the input variables, e.g. the indicators used for the coordination measurement, should represent all the five spheres. Hall and Soskice also provide no reason why any of the spheres should be more important than others. Based on this, we argue that the measurement of the coordination index should not only account for all the five spheres identified, but treat them with equal weight.

The empirical part of this paper illustrates how different approaches to the variable treatment might lead to different findings. Our analysis only includes the 10 post-communist EU members. We argue that fulfilment of the Maastricht criteria by the CEE countries is satisfactory confirmation that there is a capitalist economy to be studied. Additionally, according to the World Bank the transition period of the EU New Member States' economies is over (World Bank, 2008) and these could be considered developed.

The next section discusses two statistical procedures we employ to produce two coordination indices, using the same input variables.

2. Methodology

Departing from the VoC concept, measuring the co-ordination of firms and other actors directly is almost impossible. However, it is possible to capture the outcomes of behaviour of firms, employees and other relevant actors. According

to VoC, the coordination type is basically a latent factor lying behind other, more specific indicators such as union density or number of patents.

Since the VoC theory does not specify what exact indicators are describing which coordination processes, we used the most known and reliable statistical databases and collected the indicators that fit the framework and are internationally comparable. A complete list of variables chosen, as well as the data source, definition and time of observation is available in Appendix.

Standard procedure to reveal the latent phenomenon in the social science is the factor analysis, which is one of the procedures we employ. However, the factor analysis faces some strong theoretical limitations. These issues are discussed in the following section. In order to overcome these issues and compare the findings resulted from a slightly different approach, we subsequently propose our own coordination index.

2.1. Factor Analysis

We apply factor analysis in order to extract the factor score for individual countries. Factor scores are measures of the underlying concepts and thus allow comparing countries in terms of the concept, e.g. the coordination of the economic actors.

However, the issue with the factor analysis is that the factor score is dependent on the correlation of a given indicator with the factor as whole. This also means that different indicators used for the measurement of the latent factor are assigned unequal weight, due to their intercorrelation. This violates the equal weight assumption of the five abovementioned spheres of coordination.

The following part develops an alternative way of constructing the coordination index. The suggested construction of the index should keep the same conceptual properties, e.g. measuring the underlying coordination of actors. At the same time, it is developed in the way that the small number of countries, or small ‘sample size’ does not pose a problem and that all the indicators that are equal in theory are also having the same weight in the resulting index.

2.2. Alternative Index Construction

The first step in our own index construction is that we recode the collected data onto a scale from –1 to 1 according to the following logic. The closer a number moves to +1, the stronger is the indication for a non-market/strategic coordination, therefore the existence of the CME model. The same holds true vice versa: a move to –1 indicates market coordination, e.g. the LME type. The new scale preserves the relative distance between the observed variables.

This way of coding has several benefits. The fact that values of every indicator are coded separately into the same interval enables us to compare different units of measurement (e.g. per cents, US dollars or grades). Another advantage is that this scaling system allows adding any country to the analysis in the future, or applying the same scaling system to completely different set of countries or regions.

Consequently, we calculate the coordination type on the continuum from liberal to strategic coordination. To determine the type of coordination an appropriate measurement of central tendency is applied. In this case we apply the arithmetic average of median and mean. The reason for this is following. If we used only the mean we would risk that the indicator would be influenced by an extreme value due to the small sample size. On the other hand, using only median might belie the results as well. Countries with more than half of the observed variables being the same value and also the highest or the lowest would be automatically assigned to the ideal type. Therefore we consider an arithmetic average of mean and median being the most appropriate measure of central tendency for this set of data.

In order to test how strong the institutional complementarity is we measure the homogeneity of the indicator values. More specifically, we use the standard deviation. According to the VoC concept, the more homogeneous the sample is, stronger the coordination is no matter of its character. Put simply, higher homogeneity means a more complementary structure of all institutions.

The final coordination index then combines the type of coordination and the degree of institutional complementarity. In order to calculate the one number that encompasses both of the required characteristics we divide the value expressing the coordination type by the value representing the degree of institutional complementarity. Thus we secured that the stronger coordination scores higher in the final composite index.

2.3. Variable Selection

The variable selection process was guided by previous research and published literature. We have followed the structure and content of the coordination spheres as identified by Hall and Soskice (2001). Consequently we looked at what indicators have been used to measure the five spheres in recent literature. This process was adopted in order to avoid the situation where we would test indicators that were never tested before and thus produce the results incompatible and incomparable with the previous research.

In the sphere of industrial relations and employees' relations we use the following indicators: trade union density (Crowley and Stanojevic, 2009; Nölke and

Vliegenthart, 2009; Klimplova, 2007; Feldmann, 2006; etc.), employer organization density (Crowley and Stanojevic, 2009; Klimplova, 2007, etc.), collective bargaining coverage (Crowley and Stanojevic, 2009; Nölke and Vliegenthart, 2009; Klimplova, 2007; Bohle and Greskovits, 2007; etc.), workplace representation (Crowley and Stanojevic, 2009; Klimplova, 2007) and degree of bargaining centralization (Crowley and Stanojevic, 2009; Nölke and Vliegenthart, 2009; Klimplova, 2007).

The next three spheres, which cover training and education, corporate governance and inter-firm relations, are measured by the following indicators: stock market capitalisation (Hall and Gingerich, 2009; Feldmann, 2006), domestic credit (Nölke and Vliegenthart, 2009; Lane, 2005), high-tech exports and employment (Bohle and Greskovits, 2007), triadic patents (Nölke and Vliegenthart, 2009), R&D government expenditures (Nölke and Vliegenthart, 2009), social protection expenditures and social expenditures (Nölke and Vliegenthart, 2009; Crowley and Stanojevic, 2009; Bohle and Greskovits, 2007), shareholder and creditor rights protection index (Hall and Gingerich, 2009; Martynova and Renneboog, 2010) and youth unemployment (Lane, 2005).

3. Empirical Analysis and Results

3.1. Factor Analysis

Firstly we performed an analysis without any constraint on the number of factors. Both the scree plot and the eigenvalues suggested that five factors would best explain the collected data. The first factor already explains more than 41% of the variance, five factors would explain almost 80% of the variance.

However, there is no clear pattern in which the measured indicators load onto the five factors. This means that it is substantially impossible to clearly identify and meaningfully label the five factors. Such a model is neither parsimonious nor helpful in explaining the data. Additionally, four of the indicators have the absolute value of any of the factor loading below 0.3. Following the rules of thumb, this indicates that none of the five factors is behind these four indicators.

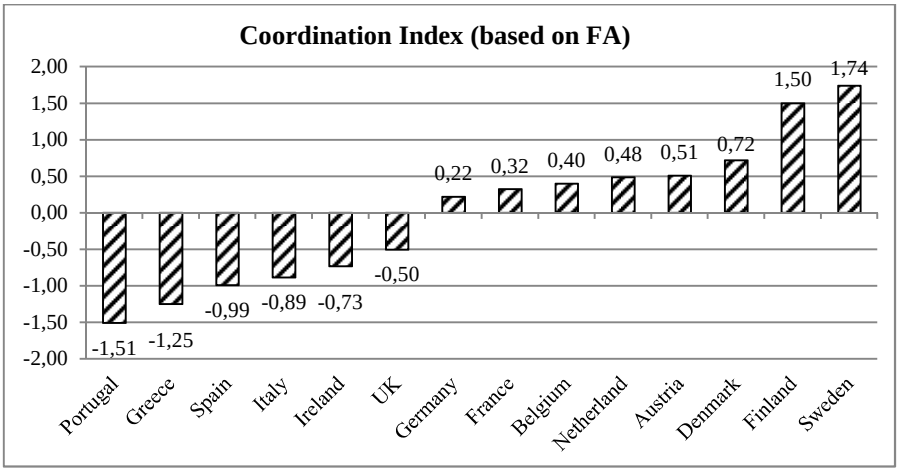
Therefore we decided to constrain the model in the next step. Based on the theoretical reasons and for the sake of parsimony the extraction is limited for one factor. This is based on the substantive theoretical reason – that there is a common force, institutional complementarity, which should underlie the outcome indicators in all the sphere of economy where the coordination takes place. This approach is not new to the social research. Kim and Mueller states that, when deciding on number of factors, "*researchers also apply another* [than purely

statistical] *criterion – that of substantive significance*" (Kim and Mueller, 1978, p. 42). Limiting the extraction only to one factor, the explained variance dropped to nearly 29% for the Western European states and more than 31% for the CEE states. The Figures 1 – 2 show the ranking of countries based on the factor score.

Before further discussion of the results we would like to note how do we interpret the factor score in this type of analysis. Factor score is a residual value from the regression equation used in the model. In other words it is a general measure of how much the extracted factor deviate from the average for a given sample. Since our units of analysis are European countries, the factor score shows the deviation of the factor strength from the European average. Since our analysis was based on the theoretical reasoning that there are institutional complementarities in the European economies and these complementarities translates into different forms of coordination of economic actors, our factor score might be considered as the index of such coordination. Factor score is centred on zero and the substantial meaning of the "above zero/average" and "below" depends on the coding of the variables. In this case, the above zero score means that a country's economy inclines towards the strategic coordination (or CME type according to the VoC terminology). Similarly, below zero score means leaning towards the liberal market coordination. Further the value is from average, closer it is to the ideal type.

F i g u r e 1

Factor Score for the Western European States (PCA, 1 Factor Extracted)



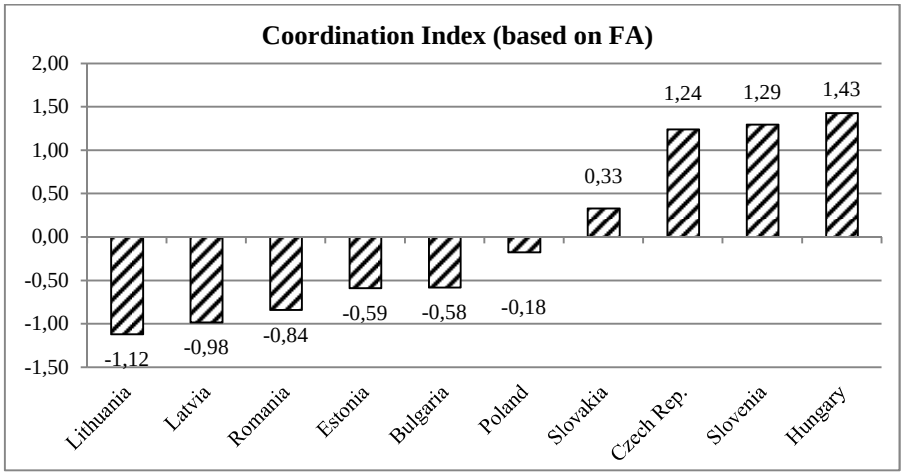
Source: Author.

Figure 1 above shows the factor score of the Western European countries. There is a clear geographic pattern in the countries' clusters. Scandinavian countries appear to be the most strategically coordinated economies in Western

Europe. Austria scored the fourth and then there are four other continental countries above the zero line. The United Kingdom and Ireland, supposedly the LME types, scored below zero and next to each other. Four Mediterranean countries scored the lowest and clustered at the bottom of the ranking.

F i g u r e 2

Factor Score for the Eastern European States (PCA, 1 Factor Extracted)



Source: Author.

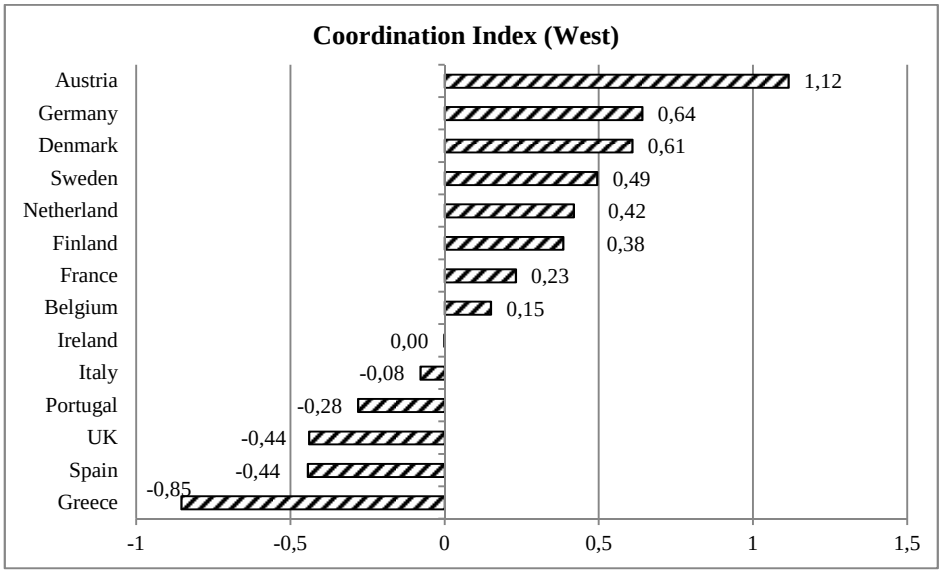
Looking at the CEE region, the picture is not so clear. Slovenia, the supposed CME model, scored only second to the best. Hungary took the first place in the ranking, suggesting that this is the most strategically coordinated economy. The Czech Republic seems rather strategically coordinated as well. Slovakia's score is also above the zero line, meaning that the economy is more strategically coordinated than market-oriented. Two of the three Baltic States, Lithuania and Latvia, confirmed their liberal market coordination foreseen by the literature. However, Estonia, repeatedly alleged to be an ideal type of LME in the post--communist Europe (Feldman, 2006; Buchen, 2005, etc.), scored the highest among the Baltic group, and also higher than Romania.

3.2. Alternative Index and Comparison to Factor Analysis

This subsection presents the alternative coordination index and compares it with the results of the factor analysis. Firstly, the index for Western Europe is shown (Figure 3). Similarly as in the case of the factor analysis, a geographical pattern emerges. However, this time it is Austria and Germany scoring the highest, and thus being the closest to the CME ideal type. The Scandinavian countries scored next to them. The Mediterranean states also do cluster together, however,

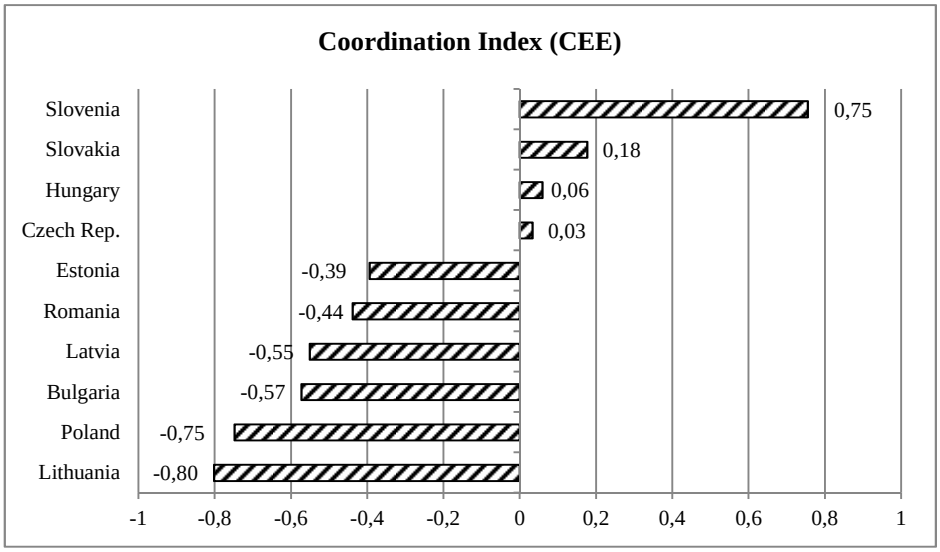
with the United Kingdom being among them. Based on the factor score, this coordination index roughly reflects the theoretical expectations of the literature (Hall and Soskice, 2001; Hall and Gingerich, 2009).

F i g u r e 3
Coordination Index for Western European Countries



Source: Author.

F i g u r e 4
Coordination Index for Central Eastern European Countries



Source: Author.

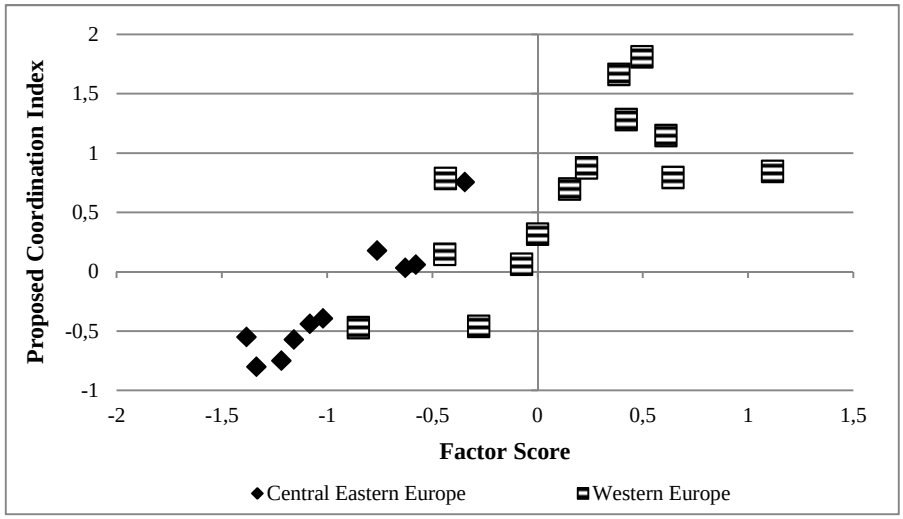
As shown by the Figure 4 above, Slovenia scored the highest in the CEE region. This indicates the most strategic coordination in the country. Another finding that is partially in compliance with the previous literature on this topic is that all three Baltic States are rather liberal economies. However, it is not Estonia that seems to be representing the ideal type. Interestingly enough, the lowest score was achieved by Lithuania. Regarding the Visegrad Group countries, Poland is supposedly more liberal than Latvia or Estonia. This score is mainly driven by the industrial relations variables (trade union and employers' association) and innovation and technology-related outcomes. What is striking is that this position of Poland has not been indicated by the recent literature.

In Hungary, Slovakia and the Czech Republic there seem to be relatively weak institutional complementarities. There is no evidence that liberal or coordinated institutions would dominate the economy. However, as it was noted already, this analysis is strongly relational in the sense that any conclusions holds only in comparison within the group of the analysed countries.

As it is clear from the comparison of the two results, many countries have distinct position in the corresponding rankings. The reason is in the method of calculating the final country score. While factor analysis uses a more sophisticated method of calculation where the correlation between the variables plays an important role, the calculation of our own coordination index was more theory-driven and regardless of the relation among the variables. Both methods show that there are some geographical patterns in both Western and Central Eastern Europe.

Figure 5

Scatter Plot of Coordination Index and Factor Score, by Western/Eastern Europe



Source: Author.

Finally, the correlation analysis of the coordination index and the factor score was carried out. The Figure 5 presents a scatter plot of the values of both indices. The West-East division of countries is graphically recognized by using different markers. The Pearson's correlation coefficient r = 0.728, which is relatively high. Substantial conclusions, as well as implications of this analysis are listed and discussed in the last section of this paper.

Conclusion

This section discusses the findings and methodological implications as well as the limitations of this research. We also point out the challenges and possible avenues for future research.

Our paper attempted to answer how the empirical data fit the VoC typology and how the selected method might influence the results. Using the same input variables, we compared two procedures leading to two coordination indices. Subsequently, we compared the results for Western and Central Eastern Europe. This allowed us to see whether the empirical fit of the data shift from the theoretical expectation because of the statistical procedures used or the actual status of the coordination in the CEE economies.

In Central Eastern Europe, the VoC theory expects Slovenia to be the closest to the CME ideal type. In addition, the Baltic States are expected to cluster together while Estonia is supposed to be the most liberal economy. However, the empirical analysis failed to fully confirm these expectations.

Whether using the factor score or our own coordination index, Estonia was not the most liberal economy in either case. To the contrary, both the factor score and the coordination index show that within the group of the Baltic States Estonia is the furthest from the LME ideal type. The analysis also failed to show the clear cluster of the Baltic States. Romania appears to be more liberal than Estonia using both of the indices. Based on our own coordination index, even Bulgaria and Poland appear to be more liberal than Estonia. On the other hand, Slovenia was not the most strategically coordinated country in the CEE, when factor analysis applied. Although Slovenia has always considered to be the CME ideal type (Feldman, 2006; Matevž, Frane and Primož, 2009), it scored less than Hungary.

Turning to Western Europe, neither the factor score nor the proposed coordination index yields the picture as expected by the VoC. Although, the country clusters are clearer than in the CEE case. Therefore the general conclusion is that if the same rules are applied to the CEE region as to Western Europe, the resulting picture does not reflect the theory. Using the same input variables, our

coordination index produces results closer to the VoC literature consensus than the factor analysis.

The main contribution of this paper is that it has critically assessed the conceptualization and measurement of the VoC. We empirically demonstrated how possible contradictions emerge. The analysis as well shows that the choices a researcher makes in regard to the sample selection and data collection influence the results considerably, e.g. how the omission of several relevant indicators might lead to the contradictory results. To illustrate the reason of difference between the VoC expectations and the empirical findings we investigated the Estonian case in a more detail. In accordance with the VoC prediction, Estonia scored lowest in many of the indicators (union density, shareholder protection, social protection expenditures, and collective bargaining coverage). However, Poland and the other two Baltic States show more liberal outcomes in other indices (Lithuania has lower enrolments in the vocational schools, lower employers' density, stock market capitalisation; Latvia has lower expenditures on R&D, less triadic patents, lower exports of high-tech products). This overall difference therefore caused Estonia's shift from the ideal position.

This brings back the critical issue of the VoC measurement. Even if we admit that, among the Baltic States, Estonia has the lowest indicators of the industrial relations, it does not imply that the coordination with other relevant actors (such as banks, education system, etc.) is the most liberal. It is possible that Lithuania has higher values on the industrial relations indicators, while retaining other institutions more complementary and thus render the economy as whole more liberal.

In addition to the data selection we also demonstrated the importance of the method used for the calculation. Our findings show an obvious discrepancy between the coordination index based on the factor score and the one based on our own calculation. The index calculation we proposed was designed in the way that all the indicators retain the same weight. In other words, the proposed coordination index treats all the indicators with the same weight (e.g. same importance for the end result) while the factor analysis weighs the indicators according to their mutual correlations.

The best illustration of the difference in results is the case of Germany and the United Kingdom. According to the VoC literature, Germany and the United Kingdom are considered the real-world ideal types of the CME and the LME, respectively. According to the factor analysis score, the two countries ranked next to each other in the middle of the Western European group. When using the proposed coordination index Germany scored next-to-the-best, which means that Germany and Austria are the most coordinated countries.

The United Kingdom ranked 12th out of 14 countries meaning that the country is rather liberal. Since the VoC theory does not indicate an unequal importance among the spheres of coordination, there is no reason to assume different weight. Therefore we consider the proposed coordination index more appropriate in this case.

Based on the above, the important message for the VoC theory is that the selection of the data matters. If the future analysis is to be based on a theory, it should follow the theory closely when choosing the input variables for any empirical tests. The future research should also deal with the apparent inappropriateness of the VoC for analysing political economies in the states with not fully developed institutions.

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Appendix 1

List of Input Variables for the Empirical Analysis

Indicator	Operationalization	Source
Trade Union Density	Union members as percentage of all employees in dependent employment	EIRO / Eurofound
Employer organisation density	Percentage of employees employed by companies who are members of an employer organisation	EIRO / Eurofound
Collective bargaining coverage	Percentage of employees covered by collective agreements	EIRO / Eurofound
Workplace representation		EIRO / Eurofound
Degree of bargaining centralization		EIRO / Eurofound
Stock Market Capitalization	% of GDP	WB
Dom. Credit provided by Banking Sector	% of GDP	WB
High-Tech Exports	% of total EXP	Eurostat
High-Tech Employ	share of total EMP	Eurostat
Triadic Patents	00-03 avg per 10 million labor force	Eurostat
Gov expenditures on RandD	00-06 avg share of total	Eurostat
Social Protection Expend	% of GDP, euro PPS	Eurostat
Shareholder rights protection index	reflects the shareholders' ability to mitigate managerial opportunistic behavior	ECGI
Minority Shareholder protection index	regulatory provisions aimed at increasing the relative power of the minority shareholders in context of strong majority shareholder	ECGI
Creditor Rights protection index	regulatory provisions that allow creditors to force repayment more easily, take possession of collateral, or gain control over firm in financial distress	ECGI
Social Expenditures	% of GDP	Eurostat
Youth unemployment*	less than 25 yrs; % of age group	Eurostat

Source: Author.