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Cultural, political and economic roots of the labor market institutional framework in the OECD and post-socialist countries

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Abstract

Research background: The literature indicates that labor market institutions are determined by cultural, political and economic factors, but does not give explicit conclusions which of these vast group of factors dominates.

Purpose of the article: The goal of this study is to empirically assess whether cultural and political factors dominate over economic factors in shaping the labor market institutional framework in the OECD and post-socialist countries.

Methods: This framework can be measured by a vast group of indicators. We use 10 such variables that describe the group of 47 post-socialist and OECD countries (that did not experience economic transition) in the years 2005–2009. These indicators allow to construct one Employment Efficiency Index which explains almost 47% of the employment rate heterogeneity in the years 2010–2015. In the second step, the Employment Efficiency Index is regressed on 7 uncorrelated and standardized components that describe the cultural, political and economic characteristics of the analyzed countries in the years 1995–2004 and the Chow test is conducted in order to determine whether they influence the Index with the same strength in post-socialist and non-transition OECD countries.

Findings & Value added: The obtained results show that cultural and political factors have a stronger influence on labor market institutions. Moreover, the estimates reveal that the countries which experienced weak labor market performance in the period 1995–2004 did not make their institutional framework more pro-employment in the following years and, in

consequence, also recorded low values of the employment rate in the period 2010–2015. Such result suggests that economic factors occurred to be on average an insufficient trigger for labor market reforms in the group of analyzed countries. Finally, the Chow test revealed that this conclusion is applicable to both post-socialist and non-transition OECD countries.

Introduction

La Porta *et al.* (1999, pp. 226–230) have argued that the theories proposed to explain the heterogeneity of institutions among countries can be divided into three broad groups: economic, political and cultural. Economic theories underline that particular policies are introduced because they are socially beneficial, and it is technically possible to implement them. Thus, those theories assume (often implicitly) that formal institutions are created by a benevolent social planner, whose choice, however, is limited by insufficient resources — particularly by incomplete information (Drazen, 2002, pp. 622–624).

Political theories underline heterogeneity of economic agents and conclude that particular institutions exist because they are beneficial to some interest groups (Drazen, 2002, pp. 622–624). According to his view, the government proposes particular reforms in order to improve welfare of its constituency, which is not necessary complementary to welfare of the whole society (Mueller, 2003, pp. 472–500).

Finally, the cultural theories indicate that agents' preferences are shaped by the historical and cultural heritage of a society (Acemoglu *et al.*, 2006, pp. 402–404). This heritage is reflected in often unwritten conventions, norms and beliefs that motivate individuals to follow one particular behavior among many others that are technologically feasible in social situations (North, 1990, p. 4; Greif, 2006, p. 30). In consequence, the voters may put a pressure on the government to sustain some institutions because they are consistent with their cultural heritage, even when they are economically suboptimal.

The presented theories allow to conclude that institutions can be determined by economic, political and cultural determinants which constitute a very broad set of correlated factors. Therefore, a question arises whether in order to analyze the determinants of particular institutions more precisely this set can be limited only to some groups of factors without losing significant information. This question is important also in the case of labor market institutions, the determinants and influence mechanism of which are still largely unknown despite the rising interest in this field in the recent years (Boeri *et al.*, 2012; Alesina *et al.*, 2015; Lucifora & Moriconi, 2015; Pilc, 2015; Vindigni *et al.*, 2015). Some studies suggest that economic factors

play a dominant role in determining these institutions (Arpaia & Mourre, 2005; Pilc, 2015), but other researchers emphasize the dominant role of political and cultural indicators (Botero *et al.*, 2004; Algan & Cahuc, 2009; Alesina *et al.*, 2015). Thus, the goal of this study is to empirically assess whether cultural and political factors dominate over economic factors in shaping the labor market institutional framework.

The research contributes to the field not only by assessing the relative impact of various determinants of labor market institutions, but also by including into the analysis the post-socialist countries where the political economy of labor market institutions is still largely unexplored (Pilc, 2015). As a result, the analyzed group of countries is heterogeneous in terms of economic, political and cultural factors.

The structure of the article is as follows. The first section succinctly describes the methods applied in the study. The second part informs in detail how the Employment Efficiency Index was calculated and presents its values for the analyzed countries. The third section identifies cultural, political and economic determinants of the Index. Finally, the last two sections discuss the obtained results and conclude.

Research methods

We use the method proposed by Knogler & Lankes (2015) to construct one measure of the labor market institutional framework. It starts from employing the principal component analysis to construct 3 uncorrelated components from the set of 10 standardized variables describing the shape of labor market institutions in the group of 47 post-socialist and non-transition OECD countries in the years 2005–2009. Then, the average level of employment to population ratio in the years 2010–2015 is regressed on these components. The estimated parameters of that regression are used as weights in the aggregation of the obtained components into one Employment Efficiency Index.

In the next step the set of 24 variables that describe the cultural, political and economic characteristics of the analyzed countries in the years 1995–2004 is transformed (with the use of the principal component analysis) to 7 uncorrelated and standardized culturally-political and economic components. Finally, the Employment Efficiency Index is regressed on these components and the Chow test is conducted in order to determine whether the components influence the Index with the same strength in post-socialist and non-transition OECD states.

Measuring the labor market institutional framework

The labor market institutions consist of a broad group of various regulations and norms that have an impact on the choices made by the participants of the labor market as far as the amount of the offered and employed labor and the level of wage is concerned (Boeri & Van Ours, 2008, p. 3). These regulations are significantly correlated, which justifies the attempts to aggregate them into a few (or even one) indicators that can be easily employed in an empirical analysis. Such an aggregation is justified also on the theoretical ground — Boeri & Van Ours (2008, p. 14) have argued that all labor market institutions operate by introducing a wedge between labor supply and demand. Therefore, all labor market reforms can be seen to a large extent as a one-dimensional choice between decreasing the wedge and increasing it.

It was decided to use ten indicators of labor market institutions that are described in Table 1. Their values were collected for the years 2005–2009 for 47 countries listed in Table 4.

The decision to choose these indicators and the time period was driven not only by the data availability. This period captures almost precisely the time between the accession of the first post-socialist countries to EU, when many reforms of labor market institutions were completed, and the beginning of the global financial crisis, when many legal changes were initiated in order to adjust the labor markets to the new situation (Heyes & Lewis, 2015). Still, however, for some indicators we were not able to collect a complete set of observations for all years. Therefore, it was decided to use average values of these indicators for the years 2005–2009¹ in the further analysis.

In the next step the indicators were standardized and transformed with the use of the principal component analysis². The criterion of eigenvalues greater than one indicated that three components should be chosen as the final ones. In order to facilitate their interpretation, it was decided to use the

¹ The presence of outliers was checked before calculating the averages, however all unusual values that were found had theoretical justification, therefore it was not decided to replace them. Moreover, as a robustness check the missing values were replaced by countries' averages and the additional principal component analysis was conducted for this modified dataset. The results, however, were very similar to those obtained for countries' averages only. They are available upon request.

² There is no doubt that observations-to-variables ratio affects the precision of the obtained results with the principal component method. However, in the literature there is no agreement how large should be the minimal acceptable level of that ratio — see Nardo *et. al.* (2005, p. 66) for a succinct comparison. Our ratio is equal to 4.7 (47 countries and 10 variables), so it satisfies the 3:1 rule and almost fulfills the 5:1 criterion.

varimax rotation. Fortunately, it changed insignificantly the percentage of variance explained by particular components, i.e. by no more than three percentage points. The component loadings (greater than |0.4|) are presented in Table 2.

The institutional component IC1 can be interpreted as an employer's freedom in terms of adjusting the costs and terms of employment to various shocks. Therefore, the higher the value of that component is, the smaller the wedge between labor supply and demand is, and the more closely to the perfect competition the labor market operates. Thus, IC1 can be treated as a measure of the labor market flexibility.

The interpretation of IC2 is not unequivocal, however it can be conjectured that it captures the level of equality in employer-employee relations. It is secured by public expenditures on labor market policies and respecting workers' rights in practice. Employers operating in countries with a high level of IC2 report that wages are generally not set individually by companies, regulations concerning hiring and firing workers are not flexible, however the relations with employees are rather cooperative.

Conversely, the IC3 reflects the situation when numerous labor unions have formal possibilities to negotiate wages in many sectors. In countries with a high level of IC3 employers report that wages are not set individually by companies, and are far from worker productivity. However, IC3 does not coincide with confrontational relations with employees, respecting their rights at work or the hiring and firing flexibility.

In the next step, the average level of employment to population ratio in the years 2010–2015 was regressed on these three components. This approach gave the possibility to assess to what extent the labor market institutional framework existing before the global crisis allowed the particular economies to ensure a high level of employment during and after the time of economic downturn. Moreover, this approach limited also the risk of potential endogeneity between labor market outcomes and its institutions.

The results of this regression analysis are given in Table 3. They revealed that three analyzed components explained almost 47% of the heterogeneity of employment to population ratio in the years 2010–2015. A similar result was obtained by Layard, Nickell & Jackman (2005, p. xxvii), who showed that the differences in unemployment rates in highly developed countries in the period of 1960–1990 might be explained by institutional indicators to up to about 55%.

The estimate of the intercept is equal to the average level of employment to population ratio, which results from the fact that components' means are equal to zero. The obtained parameter estimates were used as

weights in the following equation that allows to calculate the Employment Efficiency Index (EEI) for particular countries:

$$EEI = 53.037 + 3.843 \cdot IC1 + 2.537 \cdot IC2 - 1.938 \cdot IC3. \quad (1)$$

Thus, EEI can be treated as a single indicator of labor market institutional framework. Its main advantage is the fact that it does not rely on arbitrarily chosen weights, because these weights were obtained empirically³. What is more, the components used to construct the indicator are fully uncorrelated.

The EEI's and components' values for all analyzed countries are given in Table 4. Not surprisingly, they show that the most favorable social models for employment level after a negative shock are *Anglo-Saxon* and *Scandinavian* (Esping-Andersen, 1990; Layard *et. al.*, 2005, pp. xvi–xxviii; Boeri, 2010). The *Mediterranean* countries, which to a large extent are the opposite type to *Scandinavian* model, can be found at the bottom of the table. The results have also revealed that post-socialist countries are significantly dispersed among other clusters, which confirms that there is not any single model of institutional framework in these states (Lehmann & Muravyev, 2012; Pilc, 2015).

Cultural, political and economic determinants of EEI

The significant dispersion of post-socialist states in the presented ranking of countries according to EEI (Table 4) suggests that the labor market institutional framework, apart from cultural determinants, can also be significantly influenced by economic and political factors. To verify that conjecture, the values of 24 variables were collected for the years 1995–2004 (see Table 5). The choice of that period limited the potential risk of endogeneity between labor market institutions and the collected indicators. Moreover, a 10-year long period ensured that various temporary shocks did not affect the results. However, it was not possible to collect the data for all countries. Israel, Lithuania, Montenegro and Serbia had to be excluded from the analysis which, in consequence, was conducted for 43 countries.

Categorization of particular variables in many pieces of research is often subjective to a large extent. Therefore, in the presented study that categori-

³ Moreover, these weights reflect also the importance of particular components in the index, which is not always the case when underlying indicators are not standardized or are correlated (Paruolo *et al.*, 2013).

zation will be based on the results of the principal component analysis. Here we can only notice that variables which measure the current situation on different markets (especially labor market) constitute a group of economic outcomes. The second group consists of variables that can be directly changed by a government's political decision. Finally, the factors that are determined historically and are difficult (or even impossible) to change were called cultural factors.

In the next step, after checking for outliers, the presented indicators were standardized and transformed with the use of the principal component analysis. However, this time it was decided to calculate the components with the use of all available observations and to replace missing values with countries' averages, because the observations-to-variables ratio would have been too low when only countries' averages were used. Components with eigenvalues greater than one were chosen as the final ones and the varimax rotation was used to facilitate the interpretation. The component loadings (greater than |0.5|) are presented in Table 6. The results indicated that there are two broad categories of determinants. All cultural and political variables have formed four components, and all economic outcomes were aggregated into three separate components.

In the next step, the Employment Efficient Index and the previously obtained institutional components were regressed on the countries' averages of culturally-political and economic components. Moreover, the Chow test was conducted in order to assess whether the obtained results differed significantly between post-socialist and non-transition OECD countries. Results of these analyses are presented in Table 7.

The obtained results show that all culturally-political components have a significant impact on EEI. Therefore, it can be concluded that cultural and political factors have a substantial influence on the labor market institutional framework in particular countries.

As far as correlations with particular institutional indicators are concerned, only CPC2 that represents Scandinavian culture was significant for all institutional components. CPC1 that to a large extent measures the scope of adopting the *acquis communautaire* did not occur to be correlated with labor market flexibility (measured by IC1), but was strongly and positively connected with equality in employer-employee relations (IC2). CPC3 (differences between German and French legal origins) and CPC4 (strong family ties) occurred to be positively correlated only with labor market flexibility (IC1).

However, different results were obtained for economic components. EC2 (openness to international trade) and EC3 (labor productivity) did not occur to be correlated either with EEI or with particular institutional com-

ponents. Such results are quite surprising, because according to the economic theories mentioned previously, low values of labor productivity should have stimulated countries' governments to reform labor market institutions. The obtained results did not confirm the existence of such a relationship.

Moreover, EC1 that measures the situation on the labor market turned out to be strongly correlated with all dependent variables, however the sign of this relationship is opposite to the expected one. It indicates that countries that had a high level of unemployment, low labor participation rate and low employment to population ratio in the years 1995–2004 did not manage to reform their labor market institutions in the years 2005–2009 in order to make them more pro-employment in the period 2010–2015. This conjecture is confirmed by a more detailed analysis conducted for countries that were characterized by negative values of EC1 (see Figure 1). Despite using only 17 countries' observations for calculations the described relationship occurred to be significant at the one percent level. Therefore, it can be concluded that the worse the situation on labor market in the years 1995–2004 was, the less pro-employment institutions in the following years were in place.

The obtained results put into question the validity of economic theories aiming to explain the mechanism of forming the labor market institutions. The results indicate that these institutions are determined predominantly by cultural heritage and other formal institutions, which means that they have deep historical roots. Moreover, the Chow test conducted for the models where EEI is independent variable reveals that this conclusion applies both to post-socialist and non-transition OECD countries⁴.

Discussion

The obtained results are consistent with many studies presented in the literature. They confirm that the most favorable social models for employment level after a negative shock are the Anglo-Saxon and Scandinavian models (Esping-Andersen, 1990; Layard *et al.*, 2005, pp. xvi–xxviii; Boeri, 2010; Knogler & Lankes, 2015). The results also suggest that labor market institutions are characterized by a strong path dependence, and even if they were initially created in reaction to the changing economic circumstances

⁴ In the case of IC2 and IC3 the Chow test indicated that there are some differences between post-socialist and non-transition countries. However, the detailed analysis revealed that these differences were caused by culturally-political components. Thus, they do not affect the conclusions concerning the economic components.

(Emmenegger, 2014), once established they started to generate significant political rents, which hindered the possibility to introduce substantial reforms (Brügemann, 2006).

Although the employed method of calculating the EEI indicator is based on empirically obtained weights assigned to uncorrelated components, the precision of the estimates is still affected by the arbitrary choice of underlying indicators, geographical scope, time scope and data quality — which is a characteristic disadvantage of many composite indicators (Ravallion, 2011; Santos & Santos, 2014). Moreover, it can be argued that a statistical or econometric analysis of determinants of institutions allows to obtain only a rough sketch of real processes. Therefore, the obtained results, and especially the created country ranking (Table 4), should be treated with caution.

Conclusions

The goal of this study was to empirically assess whether cultural and political factors dominate over the economic factors in shaping the labor market institutional framework. The obtained results have revealed that they do. In consequence, this framework is so strongly time-invariant that countries which experienced the worst situation on the labor market in the years 1995–2004 also had the least pro-employment institutions in the following years. Therefore, it can be concluded that economic theories assuming that formal institutions are created by a benevolent social planner who tries to maximize social welfare are too simplified to explain how labor market institutions are determined. Moreover, the results suggest that these institutions have deep historical roots and their scope of potential changes is determined by the cultural and political heritage of the particular societies.

Exploring the mechanism of that influence can be the subject of further research. It may be interesting to analyze on the micro level how the cultural heritage reflected in informal institutions affects the possibility to introduce or reform particular formal labor market institutions. It may also be studied to what extent the changing labor market situation affects the support for particular institutions among various interest groups. Exploring these questions is important not only to gather more knowledge, because they may help to formulate “more efficient” recommendations for the labor market policy.

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Annex

Table 1. The indicators of labor market institutions employed in the analysis

Variable	Short description	Source
EPL	OECD overall index of Employment Protection Legislation, version II, the higher the values are, the more restrictive the law is.	Kajzer (2007); Lehmann & Muravyev (2012); Muravyev (2014); OECD
Tax	Tax wedge for an industry worker earning 67% of an average wage.	Lehmann & Muravyev (2012); OECD
ALMP	Expenditures on active measures of labor market policies and public employment services as a percent of the country's GDP.	Eurostat, Lehmann & Muravyev (2012); OECD
UD	Union density rate – net union membership as a proportion of wage earners in employment.	Lehmann & Muravyev (2012); U.S. Bureau of Labor Statistics; Visser (2015), variable: ud
HF_LFI	Labor Freedom Index, the higher the values are, the more freedom on the labor market is offered.	Heritage Foundation, <i>Index of Economic Freedom</i>
GC_lab_rel	Indicators based on the following questions from the Executive Opinion Survey: 7.01. In your country, how would you characterize labor-employer relations? [1=generally confrontational; 7=generally cooperative]	World Economic Forum, <i>The Global Competitiveness Report</i>
GC_w_set	7.02. In your country, how are wages generally set? [1 = by a centralized bargaining process; 7 = by each individual company]	
GC_hfp	7.03. In your country, to what extent do regulations allow flexible hiring and firing of workers? [1 = not at all; 7 = to a great extent]	
GC_pay_prod	7.06. In your country, to what extent is pay related to worker productivity? [1 = not at all; 7 = to a great extent].	
CIRI	Indicator of the extent to which workers enjoy in practice the internationally recognized rights at work. The higher the values, the better the protection.	Cingranelli et al. (2014), variable: WORKER

Table 2. Characteristics of the obtained institutional components and their loadings

Variable	IC1	IC2	IC3
EPL	-0.849		
HF_LFI	0.809		
Tax	-0.474		
ALMP		0.83	
CIRI		0.819	
GC_lab_rel	0.563	0.631	
GC_hfp	0.765	-0.462	
UD			0.87
GC_pay_prod	0.633		-0.55
GC_w_set	0.411	-0.683	-0.451
SS loadings before rotation	3.383	2.415	1.354
Perc. of variance before rotation	33.8%	24.2%	13.5%
SS loadings after rotation	3.116	2.497	1.54
Perc. of variance after rotation	31.2%	25%	15.4%
Cumulative percentage	31.2%	56.1%	71.5%

Note: IC – Institutional Component, SS – Sum of the Squared. Only the loadings greater than |0.4| are presented.

Table 3. Results of the regression of employment to population ratio on identified components

	Intercept	IC1	IC2	IC3
Estimate	53.037	3.843	2.537	-1.938
Std. error	0.802	0.811	0.811	0.811
t statistic	66.108	4.739	3.128	-2.389
p-value	0	0	0.003	0.021
R-squared:	0.469	Adjusted R-squared:		0.432
F-statistic:	12.65	F-test p-value:		0
Statistic of the Breusch-Pagan test: 2.65			p-value:	0.104
Statistic of the Doornik-Hansen test: 0.057			p-value:	0.972

Note: the model was re-estimated with a heteroscedasticity-consistent estimator due to the low statistic value in the Breusch-Pagan test, but all parameters have remained significant. The values of employment to population ratio are taken from ILO (2016).

Table 4. Values of EEI and components obtained for the analyzed countries

Country	EEI	IC1	IC2	IC3	Country	EEI	IC1	IC2	IC3
Switzerland	63.58	1.91	0.50	-1.01	Latvia	52.65	-0.19	-0.44	-0.75
New Zealand	62.17	1.37	0.72	-1.06	Germany	52.20	-1.10	1.42	0.11
Japan	61.79	1.07	0.74	-1.42	Lithuania	52.05	-0.65	-0.33	-1.21
United States	61.50	2.08	-0.32	-0.66	Montenegro	51.70	-0.15	-0.14	0.21
Denmark	61.36	2.12	1.48	1.85	Azerbaijan	51.08	0.47	-1.40	0.11
Canada	60.10	1.40	0.37	-0.39	Mexico	50.90	-0.73	-0.53	-1.03
UK	59.58	1.19	0.35	-0.56	Armenia	50.65	0.19	-1.15	0.11
Ireland	59.06	0.76	1.32	0.14	Kyrgyz Rep.	50.46	0.96	-1.08	1.82
Slovak Rep.	58.14	0.65	0.18	-1.10	Belgium	50.27	-0.86	1.15	1.22
Austria	56.94	0.10	1.92	0.71	France	50.10	-1.65	0.71	-0.82
Chile	56.79	0.50	-0.44	-1.52	Slovenia	50.06	-1.10	0.20	-0.40
Netherlands	56.61	-0.32	1.96	0.10	Portugal	50.00	-1.59	0.66	-0.72
Israel	56.26	0.87	-0.33	-0.36	Russia	49.51	0.17	-1.50	0.19
Georgia	55.03	2.08	-0.99	1.81	Poland	49.39	-0.48	-0.74	-0.03
Czech Rep.	54.34	-0.12	-0.03	-0.95	Spain	49.32	-1.39	0.48	-0.21
Hungary	54.09	0.02	0.13	-0.34	Ukraine	48.05	0.07	-1.39	0.90
Estonia	53.94	-0.18	-0.56	-1.56	Croatia	46.74	-1.10	-0.80	0.02
Sweden	53.83	-0.03	1.71	1.77	Serbia	46.66	-0.52	-1.10	0.82
Finland	53.72	-0.08	1.48	1.42	Greece	46.22	-1.47	-0.12	0.45
Luxembourg	53.54	-0.66	0.85	-0.47	Romania	46.08	-0.90	-1.20	0.24
Bulgaria	53.37	0.29	-0.52	-0.29	Italy	45.71	-1.46	0.24	1.20
Rep. of Korea	53.28	-0.21	-0.71	-1.49	Moldova	45.18	-0.48	-1.39	1.27
Albania	53.16	0.11	-0.62	-0.67	B&H	42.75	-0.45	-1.84	2.02
Norway	52.82	-0.51	1.10	0.54					

Note: UK – United Kingdom, B&H - Bosnia and Herzegovina.

Table 5. Potential determinants of the labor market institutional framework

Variable	Short description	Source
Economic outcomes:		
emp_pop	Employment to population ratio	
lf	Labor force participation rate	
u	Unemployment rate	ILO (2016)
u_youth	Unemployment rate among youth (15-24)	
e_prod	Output per worker (GDP constant 2005 US \$)	
export	Exports of goods and services (% of GDP)	World Bank, <i>World Development Indicators</i>
import	Imports of goods and services (% of GDP)	
Political outcomes:		
EUAA	Dummy variable that equals 1 starting in the year of signing an Association Agreement with EU	European Commission (2001); European Commission web page; European External Action Service (2015)
FH	Political Rights and Civil Liberties indices average, measured from 7 to 1 (highest)	Freedom House, <i>Freedom in the World</i>
WTOM	Dummy variable that equals 1 starting in the year of WTO accession	WTO website
HF_BF	The sub-components of the Index of Economic Freedom, the higher the value, the higher level of freedom is offered. BF – business freedom, CPI – freedom from corruption, IF – investment freedom, PR – freedom from deprivation of property rights, TF – trade freedom	Heritage Foundation, <i>Index of Economic Freedom</i>
HF_CPI		
HF_IF		
HF_PR		
HF_TF		
Cultural factors:		
Catholic	Dummy variables indicating dominant religion. Orthodox as a reference category. Armenia was associated with Orthodox countries, while Germany and Switzerland were coded as both Catholic and Protestant.	Encyclopedia Britannica, Froese (2004)
Muslim		
Protestant		
LO_French	Dummy variables indicating legal origins: French, German and Scandinavian, respectively. English origins as a reference category.	La Porta <i>et al.</i> (2008)
LO_German		
LO_Scand		
VS_job_men	% of respondents that agree with the question: When jobs are scarce, men have more right to a job than women.	World Values Survey, European Values Survey
VS_imp_fam	% of respondents that answered “very important” to the question: How important in your life is the family?	
VS_trust	% of respondents that agree with the question: Generally speaking, would you say that most people can be trusted?	

Table 6. The obtained culturally-political and economic components.

Variable	CPC1	EC1	CPC2	EC2	CPC3	CPC4	EC3
FH	-0.93						
HF_PR	0.84						
HF_CPI	0.79						
WTOM	0.78						
VS_job_men	-0.76						
HF_BF	0.73						
HF_IF	0.68						
Muslim	-0.66						
EUAA	0.62						
HF_TF	0.6						
emp_pop		0.94					
u_youth		-0.84					
u		-0.79					
lf		0.78					
LO_Scand			0.84				
VS_trust			0.74				
Protestant			0.73				
Catholic	0.56		-0.56				
import				0.94			
export				0.93			
LO_German					0.91		
LO_French					-0.88		
VS_imp_fam						0.95	
e_prod							0.93
SS loadings before rotation	8.01	3.32	2.2	1.76	1.65	1.26	1.17
Perc. of var. before rotation	33%	14%	9%	7%	7%	5%	5%
SS loadings after rotation	6.65	3.43	2.96	1.97	1.75	1.37	1.25
Perc. of var. after rotation	28%	14%	12%	8%	7%	6%	5%
Cumulative percentage	28%	42%	54%	63%	70%	76%	81%

Note: EC – Economic Component, CPC – Culturally-Political Component, SS – Sum of the Squared. Only the loadings greater than |0.5| are presented.

Table 7. Results of the regression analysis of EEI and institutional components on the obtained culturally-political and economic components

Independent variables:	Dependent variables:			
	EEI	IC1	IC2	IC3
Intercept	53.16*** (0.45)	0.01 (0.10)	0.04 (0.08)	0.01 (0.13)
CPC1	2.10*** (0.47)	-0.13 (0.11)	0.81*** (0.08)	-0.28** (0.14)
CPC2	1.05** (0.45)	0.29*** (0.10)	0.30*** (0.08)	0.43*** (0.13)
CPC3	1.62*** (0.45)	0.34*** (0.10)	-0.04 (0.08)	-0.21 (0.13)
CPC4	1.49*** (0.46)	0.41*** (0.10)	0.03 (0.08)	0.09 (0.13)
EC1	2.97*** (0.48)	0.52*** (0.11)	0.16* (0.09)	-0.29* (0.14)
EC2	-0.07 (0.47)	0.00 (0.11)	0.10 (0.08)	0.17 (0.14)
EC3	0.21 (0.95)	0.24 (0.22)	-0.23 (0.17)	0.06 (0.28)
R ²	0.72	0.65	0.79	0.40
Adjusted R ²	0.67	0.57	0.74	0.29
Number of observations	43	43	43	43
p-value of the Breusch-Pagan test	0.95	0.09	0.33	0.94
p-value of the Doornik-Hansen test	0.43	0.71	0.55	0.48
p-value of the Chow test	0.24	0.54	0.08	0.00

Note: asterisks denote significance levels: *** - 1%, ** - 5%, * - 10%.

Figure 1. Correlation between negative values of EC1 and EEI

