

INSTITUTIONAL CHANGES AND INCOME INEQUALITY: SOME ASPECTS OF ECONOMIC AND EVOLUTION OF VALUES IN THE CEE COUNTRIES

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Motivation

The structure of presentation

1. Literature survey
2. Theoretical framework
3. Methodology
4. Discussion
5. Conclusion

1. Literature survey

Although the socialist system did not erase income inequality, there is a broad agreement that inequality in socialistic countries was lower than inequality in other countries at similar levels of development, and that the transition from planned to market economy has led to substantial increases in income inequality (Aghion, Philippe, and Simon Commander 1999; Keane, Michael P., and Eswar S. Prasad 2002; Ivaschenko, Oleksiy 2002; Mitra, Pradeep, and Ruslan Yemtsov 2006; Milanović, Branko, and Lire Ersado 2010).

Most of the authors argue that a shift from state sector employment, with compressed wage structure, to private sector employment, with broader wage distribution, was a main driver of income inequality in post-communist countries (Milanović, Branko 1999; Keane, Michael P., and Eswar S. Prasad 2002; Jens Hölscher 2006; Alvaredo, Facundo, and Leonardo Gasparini 2013; Holzner, Mario 2015), but also rising income inequality could be connected with retrenchment of the redistributive state, the social exclusion of ethno-national minorities and penetration of foreign capital (Bandelj, Nina, and Matthew C. Mahutga 2010).

During transition, income equality, as one of the key features of socialist system, was replaced by income differentiation, where perception of inequality becomes one of the key elements of the social attitudes towards reforms (Grosfeld, Irena, and Claudia Senik 2010). Institutional reforms in post-communist countries were mostly anti-poor, especially in the early years of transition and throughout most of the 1990's (, Nina, and Matthew C. Mahutga 2010; Milanović, Branko, and Lire Ersado 2010Bandelj) and also elite-led (Milanović, Branko 1998; Hoff, Karla, and Joseph E. Stiglitz 2002; Bourguignon, François 2007; Gerry, Christopher J., and Tomasz M. Mickiewicz 2008).

Since capitalism could be proven as superior over communism only if it could combine a sufficiently higher degree of equality with superior economic efficiency (Heise, Arne 2008), questions concerning elites and stratification patterns in post-communist countries are certainly crucial for the future of inequality (Heyns, Barbara 2005).

The Post Keynesian model of transition focuses on uncertainty, non-equilibrium and the role and stability of institutions, and appears to be more competent in accounting for post-communist realities in comparison with the neoclassical paradigm (Lah, Marko, and Andrej Sušjan 1999; Marangos, John 2006; Scricciu, S. Şerban, and Lindsay C. Stringer 2008).

Our contribution to existing literature could be recognized in an attempt to explain the dynamics of post-tax income inequality in the CEE countries by the changing nature of institutional transformation, contrasting the first and second decade of transition, and consequently the power relations among social classes with different redistributive preferences.

2. Theoretical framework: Starting point

- The key assumption: *Income distribution reflects distribution of power in society*
- Democratization of institutions could provide more equal distribution of power in society and less inequality
- Elites through investment in de facto political power can reduce the effects of democratization on inequality
 - Institutional vacuum
 - Endogenous institutional changes

In the long term, the absence of significant redistributive effects of institutional changes contributes to the formation of social conventions according to which substantial disparities in income distribution are accepted as inevitable in the given circumstances.

2. Theoretical framework: Elaboration

- Institutional transformation
 - First period: *Institutional vacuum as a key feature of institutional changes*
 - Second period: *Exogeneity as a key feature of institutional changes*
- Elite composition
 - First period: *A significant part of the former communist elite appeared as the new elite*
 - Second period: *The emergence of a new elitist class whose sources of power are linked to foreign capital and meritocratic values*

The institutional consolidation, economic reconstruction and from these processes derived changes in relative power between income classes have been accompanied by greater income and status mobility and, at the same time, by increase in social tolerance for inequality.

3. Methodology: Model specification

- H1. The worsening of income distribution in the first decade of transition is associated with systemic transformation in which, due to the existence of an institutional vacuum, short-term winners of the transition process had the dominant role in shaping public policies
- H2. Consolidation and income convergence between the CEE countries in the second decade of transition are correlated with exogenous institutional changes and the gradual shift of power in favour of long-term winners of the transition process.

$$\text{Log GiniNet}_{it} = \beta_0 + \beta_1 \text{Log GiniMarket}_{it} + \beta_2 \text{Log Taxes}_{it} + \beta_3 \text{Log Reform}_{it} + \beta_4 \text{Log Reform}^2_{it} + \beta_5 \text{Log Power}_{it} * \mathbf{D}_t + \mathbf{u}_i + \mathbf{e}_{it}$$

Where subscript **i** stands for the cross-sections, **t** represents the time period; **GiniNet_{it}** – inequality in disposable income measured by Gini index after taxes and social transfers; **GiniMarket_{it}** - inequality in market income measured by Gini index before taxes and social transfers; **Taxes_{it}** – Taxes on income as percentage of GDP; **Reform_{it}** – the average unweighted EBRD reform index; **Power_{it}** – power ratio between two income classes; **u_i** and **D_t** - are country and time specific effects, respectively, and **e_{it}** is the idiosyncratic error term.

The first two explanatory variables are control variables, while the remaining variables are the institutional and power determinants on inequality

Table 1 Variable Description

Name	Source	Description	Obs.	Mean	Std. Dev.	Min	Max
Gini Net	Standardizing the world income inequality (database — SWIID, version 2014).	Gini index of inequality in disposable (post-tax, post-transfer) income	220	28.34	4.51	17.18	36.72
Gini Market	Standardizing the world income inequality (database — SWIID, version 2014).	Gini index of inequality in market (pre-tax, pre-transfer) income	220	39.25	6.39	22.81	51.83
Taxes	The QoG Standard dataset	Taxes on income (% of GDP)	175	7.65	1.46	4.3	11.1
Reform	European Bank for Reconstruction and Development	Transition indicators - average	216	3.37	0.71	1	4
High/Middle	World Income Inequality Database - WIID (Version 3.3)	Income share High Class/ Income share Middle Class	178	1.14	0.11	0.93	1.37
Elite/Middle	World Income Inequality Database – WIID (Version 3.3)	Income shere Elite/ Income share Middle Class	178	0.14	0.04	0.07	0.25

3. Methodology: Tests and estimation

- CS dependence is tested by using the Breusch-Pagan LM test (1980). The test's result ($\chi^2 = 88.8226$; $p\text{-value} = 0.0001$) indicates the presence of CS dependence
- The results of the Wooldridge-Durbin test detected the presence of first-order serial correlation ($F(1, 9) = 47.621$; $p\text{-value} = 0.0001$)
- Modified Wald test for groupwise heteroskedasticity revealed that that the model is also heteroskedastic ($\chi^2(10) = 195.20$; $p\text{-value} = 0.000$)

Table 2 Pesaran CIPS (2007) unit root test

Variables	Level		First difference		Conclusion
	Stat. (Z-bar)	p-value	Stat. (Z-bar)	p-value	
Gini Net	-2.637	0.004	-2.977	0.001	I(0)
Gini Market	-2.831	0.002	-2.164	0.015	I(0)
Taxes	-0.310	0.378	-1.783	0.037	I(1)
Reform	-3.618	0.000	-7.927	0.000	I(0)
High/Middle	-2.967	0.002	-4.910	0.000	I(0)
Elite/Middle	-1.702	0.044	-1.857	0.032	I(0)

Notes: Null hypothesis is the series is I(1). Test regressions include constant term.

Source: Authors' calculation (2016). STATA 14 software.

Table 3 OLS regression with panel-corrected standard errors

DEPENDENT VARIABLE: NET INEQUALITY						
	(1)	(2)	(3)	(4)	(5)	(6)
	PCSE1	PCSE2	PCSE1	PCSE2	PCSE1	PCSE2
VARIABLES			Std Beta	Std Beta	Endogeneity	Endogeneity
Log Gini Market	0.731*** (0.0320)	0.619*** (0.0416)	0.767*** (0.0336)	0.619*** (0.0416)	0.736*** (0.0204)	0.663*** (0.0316)
D.LogTaxes	-0.0271** (0.0115)	-0.0348*** (0.0113)	-0.0193388 (0.008)	-0.0348*** (0.0113)	-0.0294*** (0.0104)	-0.0190* (0.0101)
Log Reform	1.432*** (0.440)	1.002** (0.452)	0.134*** (0.0560)	1.002** (0.452)	0.741** (0.315)	0.728** (0.305)
Log Reform ²	-0.639*** (0.203)	-0.450** (0.207)	-0.029*** (0.0094)	-0.450** (0.207)	-0.304** (0.146)	-0.303** (0.139)

DEPENDENT VARIABLE: NET INEQUALITY						
	(1)	(2)	(3)	(4)	(5)	(6)
	PCSE1	PCSE2	PCSE1	PCSE2	PCSE1	PCSE2
VARIABLES			Std Beta	Std Beta	Endogeneity	Endogeneity
Log (High/Middle)	0.0912**		0.059***		0.101***	
	(0.0380)		(0.0248)		(0.0275)	
Log (Elite/Middle)		0.0981***		0.0981***		0.0909***
		(0.0252)		(0.0252)		(0.0147)
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.0180	0.832**	0.762***	0.832**	0.307	0.790***
	(0.265)	(0.358)	(0.1807)	(0.358)	(0.200)	(0.241)
Observations	143	143	143	143	142	142
Number of states	10	10	10	10	10	10

Note: Panel corrected standard errors are in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The standardized coefficients are calculated by using StdBeta program version 1.7 (Hemken, Doug 2016)

Source: Authors' calculation (2016). STATA 14 software.

3. Methodology: Robustness check

1. Shortening the sample
2. Controlling outliers
3. Introducing the unbounded measure of Gini index

Table 4. Robustness check

VARIABLES	(1)	(2)	(3)	(4)
	PCSE1 DFBETA	PCSE2 DFBETA	PCSE1 Logistic Gini	PCSE2 Logistic Gini
GiniMarket	0.759*** (0.0389)	0.650*** (0.0554)	0.661*** (0.0266)	0.547*** (0.0376)
Taxes	-0.027** (0.0117)	-0.0214* (0.0128)	-0.0384** (0.0162)	-0.0452*** (0.0145)
Reform	1.153* (0.629)	0.204 (0.788)	2.252*** (0.601)	1.469** (0.581)
Reform ²	-0.392* (0.252)	-0.114 (0.327)	-1.019*** (0.276)	-0.654** (0.267)

	(1)	(2)	(3)	(4)
	PCSE1	PCSE2	PCSE1	PCSE2
VARIABLES	DFBETA	DFBETA	Logistic Gini	Logistic Gini
High/Middle	0.170*** (0.0401)		0.104** (0.0522)	
Elite/Middle		0.0777*** (0.0290)		0.163*** (0.0370)
Country Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	No	Yes	Yes	Yes
Constant	-0.124 (0.410)	1.192** (0.575)	-1.704*** (0.336)	-1.012*** (0.335)
Observations	103	119	143	143
Number of states	10	10	10	10

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' calculation (2016). STATA 14 software.

4. Discussion: Control variables

DEPENDENT VARIABLE: NET INEQUALITY						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	PCSE1	PCSE2	PCSE1	PCSE2	PCSE1	PCSE2
			Std Beta	Std Beta	Endogeneity	Endogeneity
Log Gini Market	0.731*** (0.0320)	0.619*** (0.0416)	0.767*** (0.0336)	0.619*** (0.0416)	0.736*** (0.0204)	0.663*** (0.0316)
D.LogTaxes	-0.0271** (0.0115)	-0.0348*** (0.0113)	-0.0193 (0.008)	-0.0348*** (0.0113)	-0.0294*** (0.0104)	-0.0190* (0.0101)

Disintegration of socialist safety nets was accompanied by the fall in employment and real wages, while the negative influence of neoliberal reforms was more pronounced compared to the positive influence of the European social model in establishing new institutions and policies of welfare state

4. Discussion: Institutional reforms

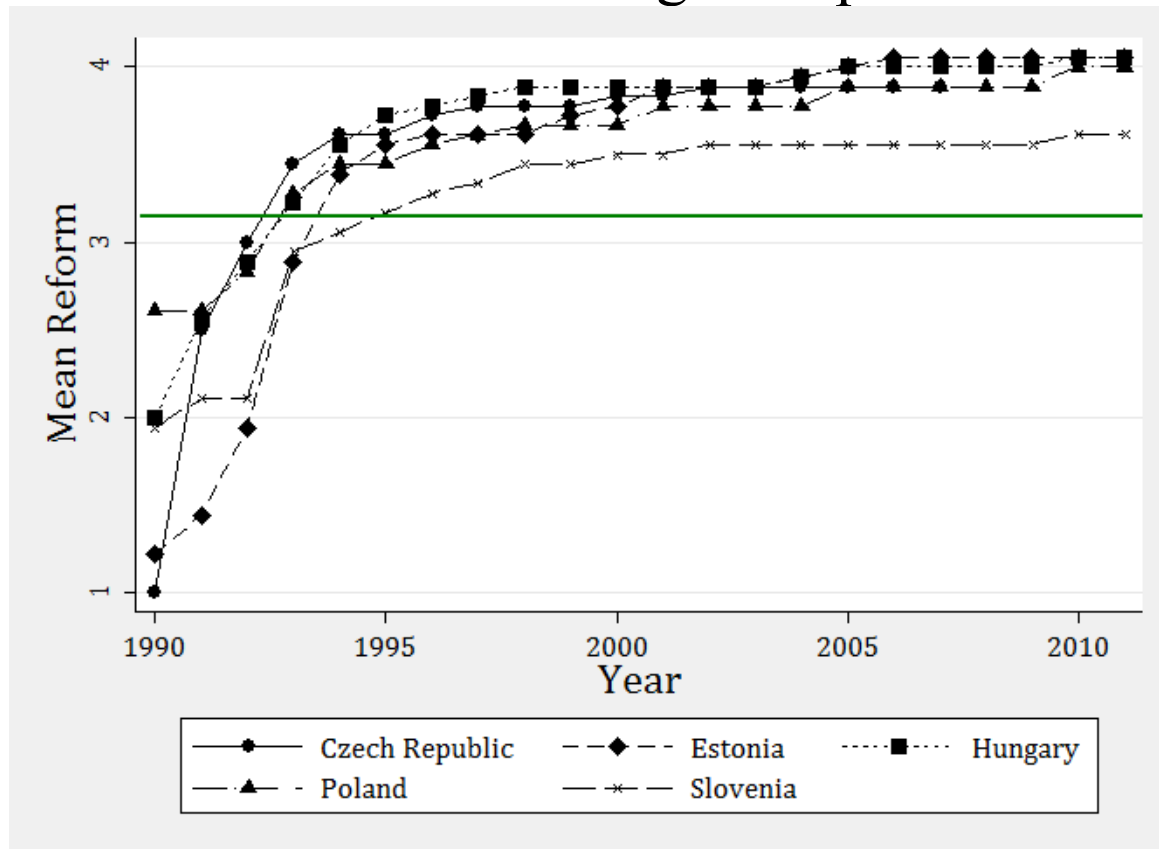
DEPENDENT VARIABLE: NET INEQUALITY						
	(1)	(2)	(3)	(4)	(5)	(6)
	PCSE1	PCSE2	PCSE1	PCSE2	PCSE1	PCSE2
VARIABLES			Std Beta	Std Beta	Endogeneity	Endogeneity
Log Reform	1.432*** (0.440)	1.002** (0.452)	0.134*** (0.0560)	1.002** (0.452)	0.741** (0.315)	0.728** (0.305)
Log Reform ²	-0.639*** (0.203)	-0.450** (0.207)	-0.029*** (0.0094)	-0.450** (0.207)	-0.304** (0.146)	-0.303** (0.139)

$$\text{Log GiniNet}_{it} = 1.432 \text{ LogReform}_{it} - 0.639 \text{ LogReform}_{it}^2$$

$$\frac{\partial \text{LogGiniNet}}{\partial \text{Logreform}} = 1.432 - 1.278 \text{ LogReform}_{it}$$

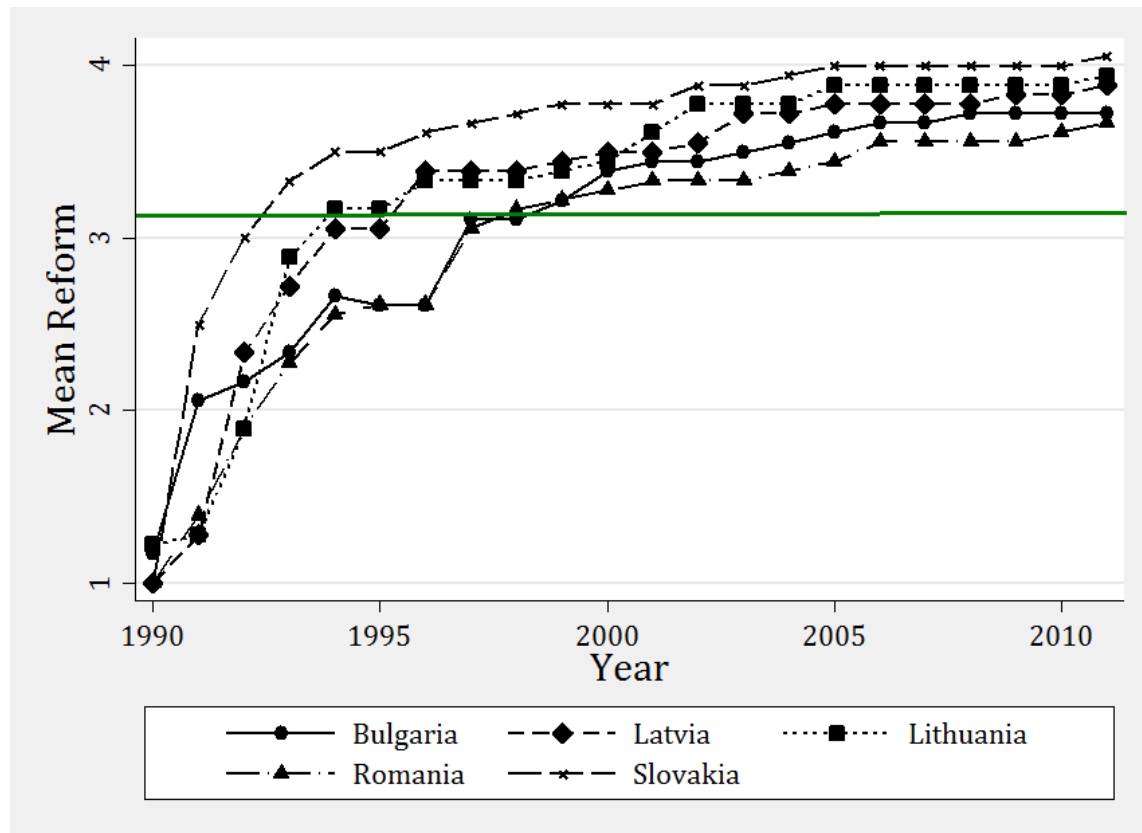
Transitional reforms deteriorate the income distribution in the countries where the average value of the quality of institutional reform was below 3.1

Figure 1 The average value of the quality reform indices for the CEE
'Luxembourg Group'



Source: Authors' illustration (2016). Program STATA 14.

Figure 2 The average value of the quality reform indices for the CEE
'Helsinki Group'



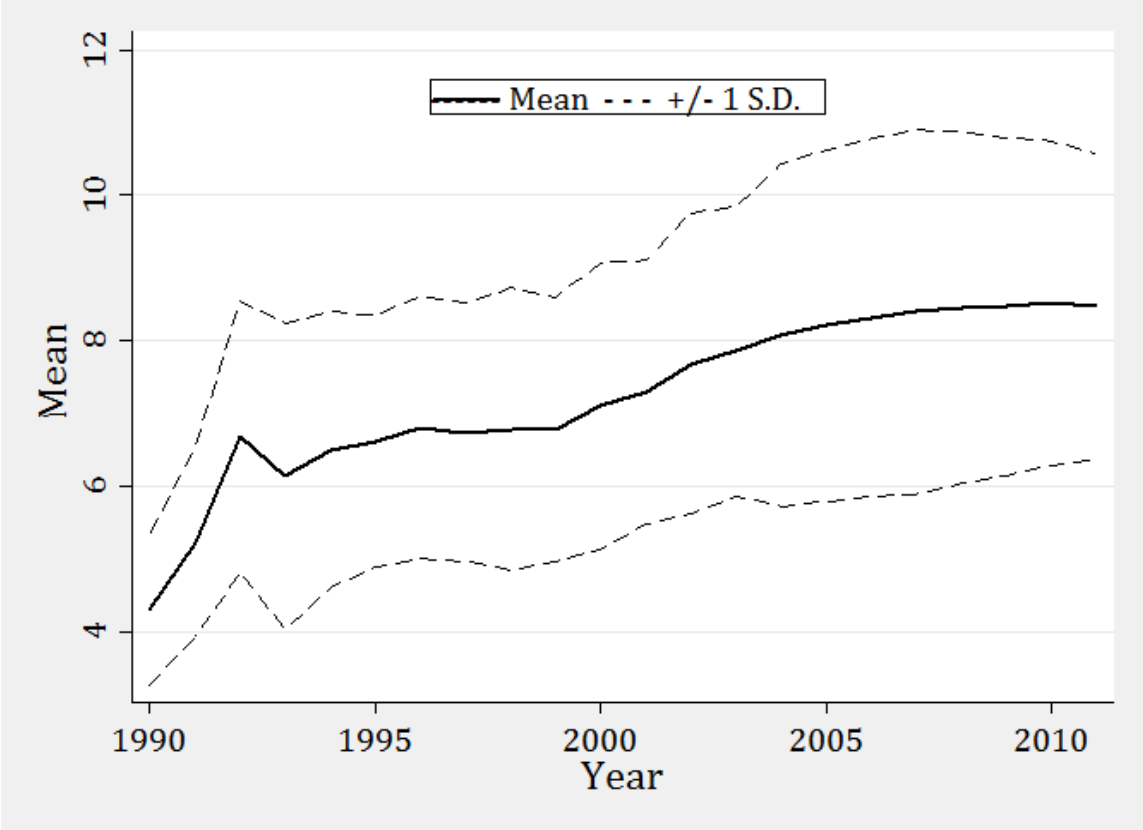
Source: Authors' illustration (2016). Program STATA 14.

4. Discussion: Relative power between income classes

DEPENDENT VARIABLE: NET INEQUALITY						
	(1)	(2)	(3)	(4)	(5)	(6)
	PCSE1	PCSE2	PCSE1	PCSE2	PCSE1	PCSE2
VARIABLES			Std Beta	Std Beta	Endogeneity	Endogeneity
Log (High/Middle)	0.0912**		0.059***		0.101***	
	(0.0380)		(0.0248)		(0.0275)	
Log (Elite/Middle)		0.0981***		0.0981***		0.0909***
		(0.0252)		(0.0252)		(0.0147)

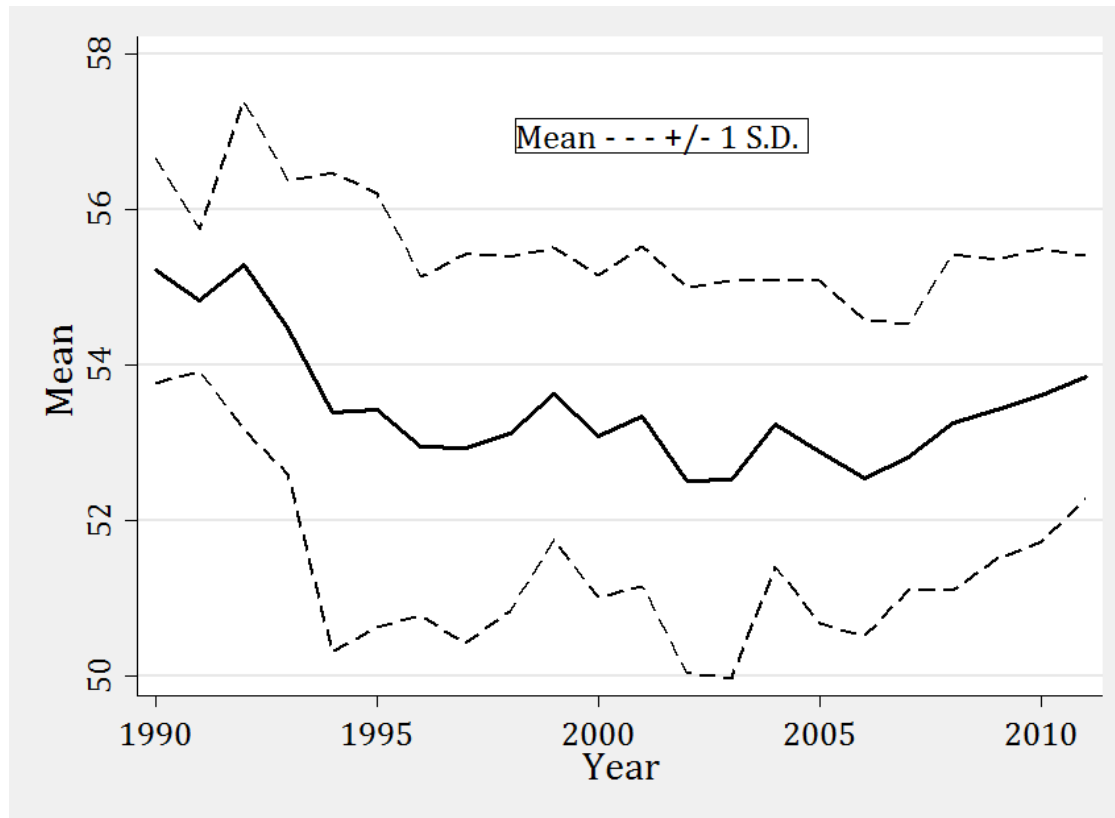
Changes in relative power between classes could be linked to progress in the area of institutional reforms, which is indicated by their time synchronization (the figures 1 and 2 on the one hand, and the figures 3 and 4 on the other hand).

Figure 3 The dynamics of the 1 percent of richest population's share of total income (in % of total income)



Source: Authors' illustration (2016). Program STATA 14.

Figure 4 The middle class in the CEE countries – share in the total income

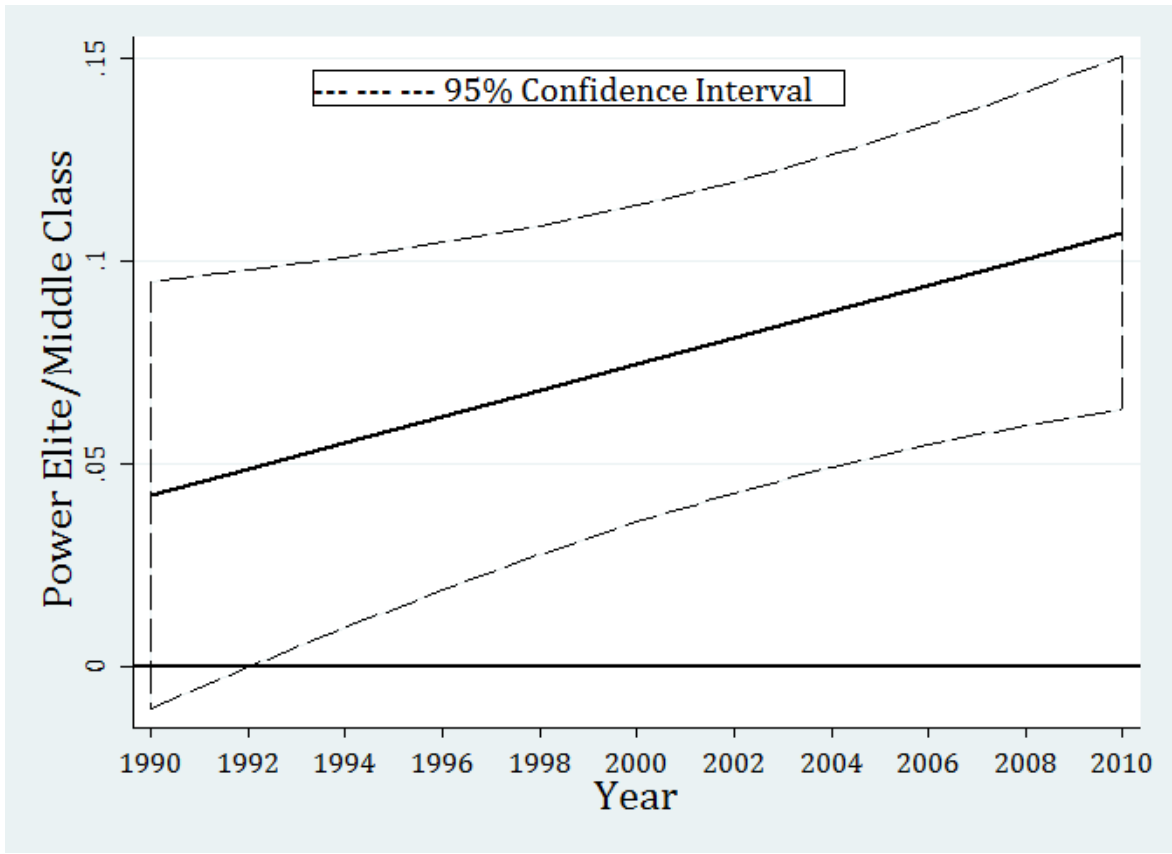


Source: Authors' illustration (2016). Program STATA 14.

4. Discussion: Conditional marginal effects

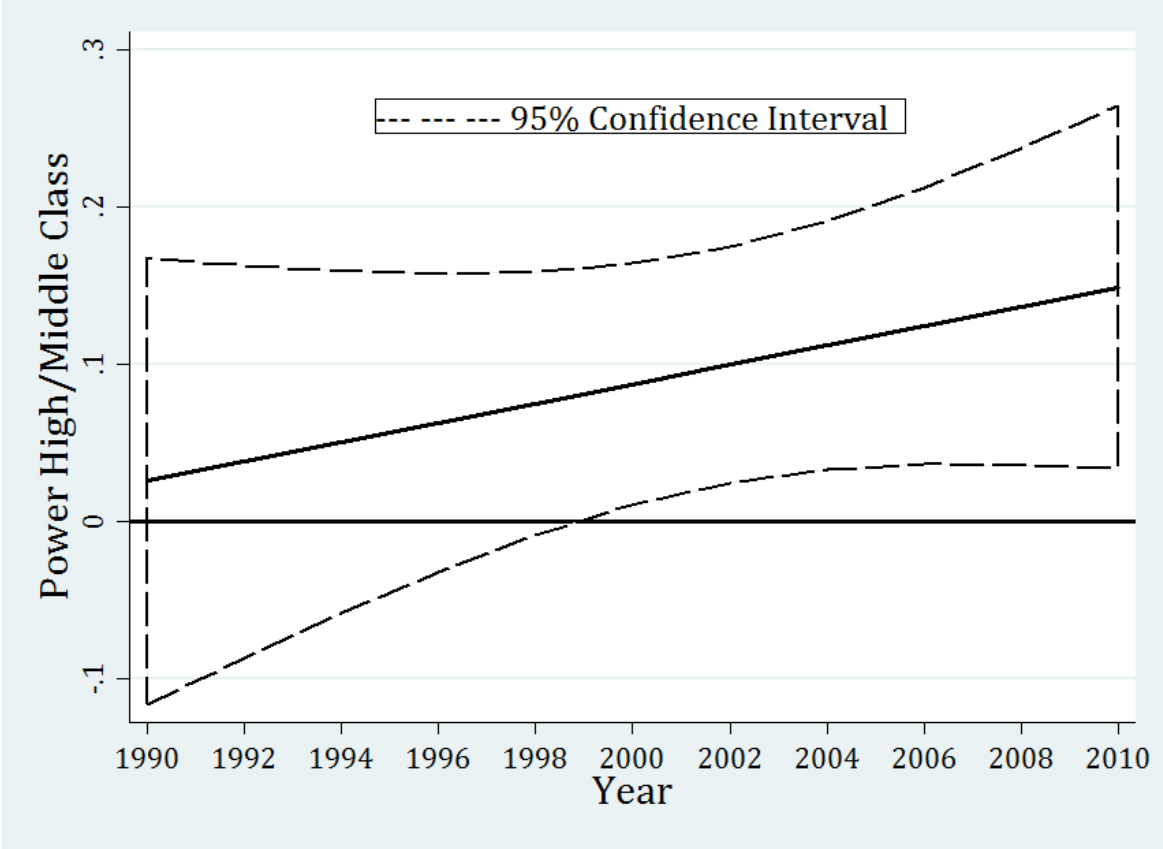
- The interaction between the variables Power and Time specific effects
- The intention is to interpret the time determined effects of changes in relative power between classes on net inequality through the changes in institutional environment
- If there were differences in the statistical significance of conditional effects over time, it might suggest the evolutionary changes in society about income concentration.

Figure 5 Influence of the change in power between elite and middle class on net income inequality over time



Source: Authors' calculation (2016). STATA 14 software.

Figure 6 Influence of the change in power between high and middle class on net income inequality over time



Source: Authors' calculation (2016). STATA 14 software.

The institutional changes in the second period of transition were associated with a specific evolution of values that has increased the tolerance for inequality, and thus the impact of the high class on income distribution.

Transitional tolerance for inequality

- Consequence of weakening the potential for protest movements of transition losers, rather than the result of evolution of values in society
- By dividing transition losers into the subclass with mutually conflicting interests and weak social connections, the elites reduced the risk of large-scale unrest due to rising inequality and poverty. A similar effects had an uneven distribution of revenues from privatization among workers in successful and failed state-owned enterprises

Post-transitional tolerance for inequality

- The concentration of income is more a function of meritocratic values rather than a result of instability and uncertainty
- It does not mean that the subjective perception of the reforms by the majority is positive

It is possible to link post-transition tolerance to the specific evolution of values, in the context of emerging social conventions, where the concentration of income is not justified, but seems to be accepted as an inevitable consequence of integration into the European and global economic processes

Conclusion: Theoretical framework

- The key role of institutional changes in the economic evolution and evolution of values in the post-communist countries
- H1: The worsening of income distribution in the first decade of transition is associated with the systemic transformation in which, due to the existence of an institutional vacuum, the dominant role in shaping public policies have had the short-term winners of transition.
- H2: Consolidation and income convergence between the CEE countries in the second decade of transition are linked to the exogenous institutional changes and shifting relative power in favour of the long-term winners of transition.

Conclusion: Empirical evidences

- There is a statistically significant and non-linear relationship between institutional reforms and net income inequality
- Strengthening of the relative power of elite and high class compared to the middle class is associated with a worsening in income distribution, but the observed effect on net inequality in the case of high class was not significant during the first decade of transition
- The emergence of a specific tolerance for inequality that coincides with the transition from shock therapy to the model of institutional reforms based on implementation of the EU's *acquis communautaire*.

Dynamics inequality/redistribution has to be considered in the context of not only economic evolution, but also the arising of social conventions where a high concentration of income is not justified, but seems to be accepted as inevitable in the process of integrating into the European and global economic processes

Thank you very much
for your attention!