Democracy, Institutions And Growth.

The Case Of Eastern European Former Communist Countries.

Abstract

Does democracy help or hinder transition countries in achieving economic development? The existing literature states the impossibility to establish a direct correlation between democracy and growth, but recognizes a very important role for institutions as determinants of economic performance. Hence, the paper considers the democracy/development relation as an indirect one, and institutions as the main transmission channel. After reviewing the recent literature about democracy, growth and institutions, the paper offers a simple classification of institutions and uses it to search for an indirect democracy/growth relationship within former Communist Countries.

The early experience of these countries actually offers some empirical support to the hypothesis of a positive indirect relationship between democracy and economic growth. In fact, there's an interesting correspondence between the most democratic countries and the best performing economies. Data show the possible existence of an indirect relationship between democracy and growth through some selected institutions and human capital. Thus, more democratic countries exhibit better economic performance when supporting institutions exists.

Keyword: democracy, institutions, growth, development, former communist countries, Eastern European countries

JEL Classification: O1, O43, O52, P0, E02

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Introduction

Has democracy a role in helping countries to pursue economic growth and development? Or, in other words, are there some linkages between the nature of one country's political regime and its economic performance? Answering this question could be actually hard, but there is indeed a way to tackle the task and this paper moves toward this direction. In fact, the purpose of this study is exploring new perspectives in linking democratization and development, both theoretically and with reference to the Eastern European former communist countries, namely a group of countries whose history, culture and economic development have been quite similar for a long period of time, making them strongly comparable. After 1989-90, all these countries experienced a dramatic change in their institutional political and economic regime. Since their economic starting point is similar, possible differences among their subsequent processes of development could have been driven also, and I add, especially, by possible differences among their new institutional patterns. Hence, the question I address is plain and straightforward: whether democratic institutions bring advantages or disadvantages to the economies of these former communist countries.

The first part of the paper reviews the earliest literature on the linkages between democracy and growth; on that basis, a theoretical model that links the institutional structure of a country with its economic performance is offered. Thus, this paper doesn't search a direct association between democracy and growth. Since the political regime influences and often shapes the institutional framework of the country, institutions are used as a channel. Economic and political institutions are separately considered, because the effects of democracy are mainly transmitted by the latter and economic and political science literature have not deepened this point so far.

The second part analyzes the democracy/growth relationship for selected countries. Former communist countries are chosen, with particular attention on Eastern European ones. The indirect relationship is searched by a two steps analysis. Firstly a growth regression is run, adding some proxies for institutional variables, according to the theory exposed above. Secondly, the relationship between democracy and selected institutions is analyzed.

The results are very interesting and give floor to further analysis on this topic. Actually, though the impossibility to state a direct relation between democratization and growth seems to be confirmed, there is some evidence on the existence of an indirect relationship, through institutions and human capital. In particular, democracy is positively correlated with political stability and rule of law and investment in human capital generally records better results in more democratic countries. Thus, among deep determinants, institutions seem to work better under a democratic regime. These initial results linking democracy and growth point to the obvious need of further studies.

1. Democracy, institutions and growth: a review of the literature

The existence and the nature of a relationship between democracy and growth has been studied during the past twenty years. Starting from the 1950s, the emergent process of decolonization led to a number of studies which showed a negative correlations between democracy and growth. In particular, both Lipset[1] and de Schweinitz[2] argued that democracy is an expensive luxury that emerging poor countries can't afford.

Successive historical events seemed to suggest that kind of idea was right. The emergence of authoritarian and often soviet-style regimes, the difficulties and also the failures of the post-colonial process of democratization, all gave credit to the theory about growth and political regimes previously mentioned. Thus, there was a decline in the interest for this topic. Besides, this debate during the years of the Cold War tended to be more ideological and therefore it disappeared from the academic agenda.

Since the mid-1990s the topic has gained more interest, especially among growth economists. In 1996 Robert Barro[3] published an article showing that democracy and growth are not correlated; the cross-sectional analysis also showed that whenever a relation exists it's slightly negative. In the same period Helliwell[4] came to similar conclusions using a similar method. Preworski et al. [5] tried a different analysis some years later but got very similar results, reinforcing the idea that it's impossible to set up a direct correlation between democracy and growth.

During the last twenty years another branch of economics has been dedicated to studying the effects of institutions on growth; this effect has been proved to be positive and quite strong, especially for property rights and rule of law. In particular, following the broad definition of institutions given by North[6], institutions are just "the rules of the game in a society and more formally [as] the humanly devised constraints that shape human interaction". By this definition, there's a wide range of institutions we can analyze to investigate the interaction between a political system and an economic one. Acemoglu[7], Rodrik[8]

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[1] Lipset, S. M. (1959). Some social requisites of democracy: economic development and political legitimacy. *American Political Science Review , 53* (1), 69-105.

[2] De Schweinitz, K. J. (1959). Industrialization, labor controls, and democracy. *Economic Development and Cultural Change , 7* (4), 385-404

[3] Barro, R. J. (1996). Democracy and economic growth. *Journal of Economic Growth , 1* (1), 1-27.

[4] Helliwell, J. F. (1994). Empirical linkages between democracy and economic growth. *British Journal of Political Science, 24*, 225-248.

[5] Przeworski, A., Alvarez, M. E., Cheibub, J. A., & Limongi, F. (2000). *Democracy and development.* Cambridge, MA: Cambridge University Press.

[6] North, D. (1990). *Institutions, institutional change and economic performance.* Cambridge: Cambridge University Press.

[7] See Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Institutions as a fundamental cause of long-run growth. In P. Aghion, & S. Durlauf (ed.), *Handbook of economic growth* (p. 385-472). Amsterdam: Elsevier.

[8] Rodrik, D. (2003). *In search of prosperity.* Princeton: Princeton University Press.

and other authors[9] stressed the role of economic institutions in determining economic growth. This kind of institutions is part of the deep determinants of growth, together with international trade and geography[10]. A large part of the recent literature considers institutions in the contest of the deep determinants of economic growth. In this paper institutions are the chain which link democracy to the economic system and, in that way, to growth. Surprisingly, this kind of research is quite virgin land, especially with regard to political science. The simple model set up below could help to start a new way for studying the nexus between democracy and growth.

2. Democracy, institutions and growth: a model

The political and economic systems are not completely split and separated. They interact within the broader context of the social system. Thus, it's reasonable to think that political regimes affect the economic system, influencing growth and development. The existing literature, as seen before, states the impossibility to establish a direct correlation between democracy and growth, but recognizes a very important role for institutions as determinant of economic performance. Hence, the paper considers the relationship as an indirect one and institutions as the main channel which it works through.

Two distinct groups of institutions may be identified: economic institutions and political ones. The first group includes property rights and market regulations, which are directly concerned with economic activity. The latter more directly concerns political power and its use. Formal constitutions, civil liberties and informal power networks, like for example lobbies and elites, are all considered here. The model includes some conditions that contribute to shape the environment where economic activity occurs. These are stability, freedom[11] and rule of law. Although many other aspects could be taken into account, the elements considered here are the minimum required to give an idea of the logic that links political regimes with economic performance, within a wider scheme which takes into account political variables and also other environmental conditions favorable to growth.

The theoretical framework of the paper includes three building blocks:

- environmental conditions: stability and freedom;
- economic institutions: property rights and market regulations;

[9] Campbell, N. D., & Rogers, T. M. (2007). Economic freedom and net business formation. *Cato Journal , 27* (1); Bloch, H., & Tang, S. H. (2004). Deep determinants of economic growth: institutions, geography, and openness to trade. *Progress in development studies , 4* (3), 245-255; Feng, Y. (2003). *Democracy, governance and economic performance.* Cambridge MA and London: MIT Press; Persson, T., & Tabellini, G. (2007). The growth effect of democracy: is it heterogeneus and how can it be estimated? *Discussion Paper 6339* . Londra: CEPR.

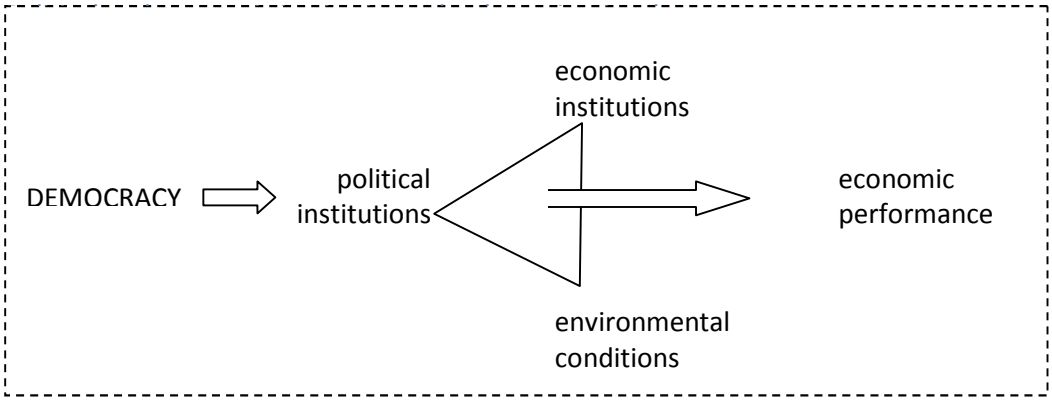
[10] Bloch, H., & Tang, S. H. (2004). Deep determinants of economic growth: institutions, geography, and openness to trade. *Progress in development studies , 4* (3), 245-255.

[11] An explanation of the positive relation between stability, freedom and economic growth is provided by Yi Feng. See Feng, Y. (2003). *Democracy, governance and economic performance.* Cambridge MA and London: MIT Press.

- political institutions: constitutions, informal power.

These elements are interrelated in a dynamic process which can be easily described using the chart below.

Chart 1



Source: chart created by the author

The scheme represents the three main elements of the model as the vertex of a triangle. All the elements are actually linked by an interactive relationship which contributes to determine them, hence the idea of the triangle. The political institutions work as a channel to input the effect of democracy into the development dynamics. The whole triangle, which represents the country's variables as a whole, eventually determines economic performance. So, the scheme emphasizes political institutions not for some pre-eminence but because they are the specific channel through which democracy can affect economic activity.

Now, consider the three elements individually. The role of economic institutions has been stressed for decades. In particular, we can refer to markets and property rights as the main economic institutions. Some studies[12] include a measure of economic freedom within economic institutions. This paper deals with it separately, because both economic and political freedom are considered within the environmental conditions. The effects of economic institutions on growth have been extensively studied and nowadays there is a large consensus among scholars on the important role of these institutions on economic performance[13].

It is more interesting to further investigate the other two elements, i.e. the environmental conditions and the political institutions, because they can offer the key to link democracy and economic growth.

[12] For example Barro, R. J. (1996). Democracy and economic growth. *Journal of Economic Growth , 1* (1), 1-27.
[13] For a brief review see Aghion, P. (2006). On institutions and growth. In T. S. Eicher, & C. Garcìa-Penalosa (edited by), *Institutions, development and economic growth.* Cambridge & London: MIT Press. And also Heo, U., & Tan, A. C. (2001). Democracy and economic growth: a causal analysis. *Comparative Politics , 33* (4), 463-473.

Stability and freedom

Stability can be defined as the probability that the current regime will last the successive period. The positive effect of stability on growth is based on the famous idea of Ronald Coase about transaction cost[14]. The link between stability and democracy has been empirically studied by several authors. Their results show that regular turn-over of governments in democracy reduces instability[15]. Besides, autocracy could foster growth through stability only if private investments follow a dictator's will and desires, provided these are development-oriented. If it is not the case, investments become increasingly destabilizing, reducing the resource extraction ability of the dictator and at last producing negative effects on economic growth[16]. This problem doesn't arise within democratic institutions.

Even setting aside that freedom could be defined as a good in itself, the importance of freedom for good economic performance has been stressed by scholars from the origins of economic science[17]. Empirical findings show that economic freedom stimulates growth especially by giving incentives to private enterprises, so increasing capital formation[18]. The main argument in favor of freedom concerns only economic freedom, setting a difference with political and civil freedom[19]. But also the latter affect economic performance because they influence the way government acts toward the economic system. Political freedom and civil rights generally produce an increase in accountability of politicians' actions[20]. In particular, two kinds of controls affect the economic system. The first one limits the cliental redistribution of resources. The second one sets positive incentives for good economic policies: good economic performance usually means re-election. Another example is given by Amartya Sen who showed that democratic countries never experienced famine[21].

Freedom and stability are conditions that shape the environment for economic transactions. Since these two conditions are strongly determined by political power[22], they creates a channel which links the political to the economic system.

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[14] See Coase, R. (1937). The nature of firm. *Economica , 4* (16), 386-405.
[15] Feng, Y. (2003). *Democracy, governance and economic performance.* Cambridge MA and London: MIT Press.
[16] See Overland, J., Simons, K. L., & Spagat, M. (2005). Political instability and growth in dictatorship. *Public Choice*, 125 (3-4), 445-470.
[17] A classical example is Friedman, Milton (1962). «Capitalism and Freedom.» Chicago: University of Chicago Press. More recently, Bjørnskov, Christian; Foss, Nicolai (2008). «Economic freedom and entrepreneurial activity: Some cross-country evidence.» *Public Choice*, vol. 134(3), pages 307-328.
[18] See Campbell, N. D., & Rogers, T. M. (2007). Economic freedom and net business formation. *Cato Journal , 27* (1).
[19] See Gwartney, J., & Lawson, R. (2003). The concept and measurement of economic freedom. *European Journal of Political Economy , 19*, 405-430.
[20] Olson, M. (1991). Autocracy, democracy and prosperity. In J. R. Zeckhauser, *Strategy and chioce* (p. 131-157). Cambridge, MA: MIT Press.
[21] Sen, A. K. (1982). *Poverty and famines: an essay on entitlements and deprivation.* Oxford: Clarendon Press
[22] See Feng, Y. (2003). *Democracy, governance and economic performance.* Cambridge MA and London: MIT Press.

Political institutions: formal and informal power

Political power shapes the environment in which economic transactions are made. Hence the importance of political institutions for economic performance. Taking into consideration both formal and informal elements (using North's definition[23]), we can consider two groups of political institutions: constitutions and informal power.

Constitutions are the rules which define the political action within a State and actually they shape the political system. There are two main aspects of constitutions that are relevant for economic performance: the electoral rules and the forms of government. Electoral rules determine the form of representation while different forms of government shape the responsibility of politicians towards citizens. Within this scheme, public economic policies produce immediate effect on the economic system, influencing the economic performance of the country as a whole[24].

Besides, also *de facto* and informal elements are part of political power. Acemoglu and Robinson analyze this bipartition of political power focusing the attention on political élites, i.e. on people who actually decide[25]. Élites and *de facto* political power are linked with the economic system through redistribution of resources. Indeed, élites usually want to last as long as possible. They can pursue this aim by creating and using a cliental network, influencing the performance of the economic system, mainly via public expenditure.

Measuring democracy and institutions

The simple model shown above stresses the linkages between the political system and the economic one through political institutions as a channel. Indeed there are some difficulties in measuring and completely detecting these linkages, as the empirical findings below seem to confirm.

The first measure we need is about democracy, of course. In this paper democracy is proxied by the Freedom House Index of Political Rights, elaborated on a year-to-year basis by the Freedom House Foundation[26].

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[23] See North, D. (1990). *Institutions, institutional change and economic performance.* Cambridge: Cambridge University Press.

[24] Persson, T., & Tabellini, G. (2003). *The economic effect of constitutions.* London & Cambridge, MA: MIT Press.

[25] Acemoglu, D., & Robinson, J. A. (2006, March). Persistence of power, elites and institutions. *Working Paper 12108* . Cambridge, MA: National Bureau of Economic Research.

[26] Each index scores from 1 (=max democracy) to 7 (=min democracy). For all the details, including methodology, see www.freedomhouse.org. Averaging the score, then a 0 to 1 index is obtained, where 0 is no democracy and 1 is maximum democracy. I am aware of the existence of other indexes, in particular the Polity IV. I choose the Freedom House one because it implicitly includes the political institutional variables I mentioned in the model above. Indeed,

The real challenge is detecting a good proxy for institutions. Since it is very difficult to find an objective index, some selected subjective ones will be used. This study focus on environmental conditions, namely rule of law and political stability, and on economic institutions. The strong link between regime type (democratic either authoritarian) and political institutions makes it necessary to proxy both elements by a unique index, namely the Freedom House Political Rights Index. Further study is required to unbound these elements. Two proxies are chosen both for environmental conditions and economic institutions, to follow previous conceptual scheme. Several alternative measure for economic institutions are offered. Chart 2 shows all selected measures[27].

Chart 2

Measuring institutions: selected proxies

Proxied Institutions	Chosen measure	Source	Selected years	Selected countries
Democracy	Political Rights Index	Freedom House Foundation	1995-2008	28
Political Stability	Political Stability and Absence of Violence Index	World Governance Indicators, World Bank	1996-2008	27
Political and Civil Freedom	Rule of Law Index	World Governance Indicators, World Bank	1996-2008	27
Property Rights Protection	Property Rights Index	Heritage Foundation	1995-2008	28
Economic Freedom (1)	Overall Economic Freedom	Heritage Foundation	1995-2008	28
Economic Freedom (2)	Legal Structure and Security of Property Rights Index	Fraser Institute	1995-2007	14

3. Democracy institutions and growth in former communist countries: some empirical findings

The final part of the paper is a tentative application of the scheme previous offered to former communist countries. These countries experienced a similar transition pattern and can be compared.

The years 1989-1990 mark a break in the recent history of many countries, with the end of the Cold War by the dissolution of the Soviet Union. Many countries restored their sovereignty and started a new course in their social, political and economic life. This process evolved in different ways among the various countries involved, with some underlying common aspects. Three groups of countries could be identified. The first

democracy index generally rank as democratic countries with good political institutions. For more details on Polity IV Project see Marshall, M. G., & Jaggers, K. (2005). *Polity IV Project. Political regime characteristics and transitions, 1800-2004. Dataset user's manual.* Arlington, VA: George Mason University for the Polity IV index.

[27] The last column reports the number of this paper's selected countries covered by the relative institutional measure.

group includes countries which were actually part of the Union of Soviet Socialist Republics28; they were included in the institutional system of the USSR and suffered a complete lack of sovereignty. At the end of the Cold War, most of these countries gained independence and started a process of democratization. The second group is made of countries which were linked with USSR by a military alliance, the Warsaw Pact29 and experienced communist regimes, variously inspired to the Soviet model: since the USSR represented the sponsor and model for them, these countries have often been referred to as satellite states. Another small group can be defined including countries which experienced a communist regime but also kept some autonomy from Moscow not entering the Warsaw Pact Alliance30. This very simple classification is useful to point out that different hues of communism rose up, due to the different intensity of the Soviet influence on the two groups. Another useful classification could be made taking into account the European Accession process. Ten31 out of twenty-eight selected countries began member of the European Union from 2004-2007 while two32 were chosen as official candidates for future entry and other four33 signed the requested agreement to become potential candidates. All these countries experienced some EU influence in shaping their own political and economic institutions.

Methodology

The conceptual scheme offered above will be tested on the selected former communist countries through a cross-section analysis for the period 1995-2008, with 1990 as benchmark year. The dataset includes 28 observations, but most of the presented analysis cover 23 countries. The dependent variable is real GDP per capita growth, averaged for the 14 years considered. Figures in Chart 3 report the summary of the descriptive statistics of the sample.

First of all a standard growth equation will be presented, set up following the main neo-classical assumptions[34]. The dependent variable is the average yearly real GDP growth rate. The general equation takes the form

$$Y = f(X; D) \tag{3.1}$$

[28] The USSR was composed by 15 countries (excluding a short period during which also Finland was part of it). They were Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan, and the Baltic countries, Estonia, Latvia and Lithuania.

[29] The *Treaty of Friendship, Cooperation and Mutual Assistance*, best known as *Warsaw Pact*, was established in 1955 by Albania, Bulgaria, Czechoslovakia, Hungary, Poland and USSR under the strong sponsorship of the latter. It lasted till July, 1st 1990. Albania withdrew from the Alliance in 1968 and East Germany joined it in 1956. Czechoslovakia separated peacefully into Czech Republic and Slovak Republic in 1992.

[30] These countries are Romania and Yugoslavia. The latter dissolved in the early Nineties due to a civil-war. New countries arose from it: Bosnia-Herzegovina, Croatia, Macedonia (FYROM), Serbia-Montenegro and Slovenia.

[31] Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia.

[32] Croazia and Macedonia.

[33] Albania, Bosnia-Herzegovina, Montenegro, Serbia.

[34] Acemoglu, Daron, Samuel Johnson, e James A. Robinson. «Institutions as a fundamental cause of long-run growth.» In Handbook of economic growth, Philippe Aghion and Steven Durlauf eds., 385-472. Amsterdam: Elsevier, 2005.
Barro, Robert J. «Democracy and economic growth.» Journal of Economic Growth 1, n. 1 (1996): 1-27

where *Y* is the average real GDP growth rate; *X* represents a vector of classical determinants of economic growth (initial economic level in 1995, investment ratio on GDP, government spending ratio on GDP, household final consumption ratio on GDP and a measure of openness to trade, plus two variables for human capital, the secondary school gross enrollment rate and average life expectation at birth); *D* represents dummies for oil exporters and former Soviet Union members.

Chart 3

Summary of descriptive statistics

Variable	N	Mean	Std. Dev.	Min	Max
Real GDP per capita growth rate	28	0.06	0.03	0.02	0.15
Real GNI per capita 1995	26	4696	3497	840	13100
Household Consumption	27	0.68	0.14	0.36	0.98
Investment	28	0.25	0.05	0.16	0.37
Government Expenditure	27	0.16	0.05	0.07	0.22
Openness to trade	28	97.17	25.51	48.56	142.07
Secondary School Enrollment	26	89.78	6.96	72.80	100.57
Life expectation	28	70.51	3.55	62.85	75.99
Political Stability	28	-0.12	0.71	-1.48	1.02
Rule of Law Improvement	27	0.04	0.34	-0.70	0.65
Political Rights Index	28	0.59	0.34	0.00	1.00
Property Rights Protection	28	38.53	5.20	29.64	47.50
Overall Economic Freedom Index	28	60.47	3.01	56.06	64.96
Fraser Economic Freedom Index	14	6.06	0.80	4.45	7.14

A wider functional form is selected to include some proxies for institutional variables, following the previously exposed theory scheme. The second growth function takes the form

$$Y = f(X; Z; D) \tag{3.2}$$

where the vector Z includes a group of variable which proxies the institutional environment for the selected countries. The first is an index of Political Stability realized by the World Bank[35]. The second variable, Improvement in the Rule of Law Index, represents a simple modification of the Rule of Law Index, realized by World Bank in the same way of the previous one[36]. It shows the increase/decrease in the Rule of Law Index in the whole period. This simple operation on the index cleans the model for possible collinearity between the two institutional index. It also appears more suitable to capture the real impact of institutional quality improvement on long-run growth.

[35] The Political Stability and Absence of Violence Index ranges from -2.5 to 2.5, from 1996 to 2008, with higher values standing for more stability.

[36] The *Worldwide Governance Indicators* and their methodological explanations can be found in Kaufmann, Daniel, Aart Kraay, Massimo Mastruzzi. «Governance Matters VIII: Aggregate and individual governance indicators, 1996-2008.» *World Bank Policy Research Working Paper No. 4978* , 29 June 2009.

Results and findings

R^2 and significance of the single coefficients for regression in the first column of Chart 4 are rather low. Only openness to trade presents high significance but the wrong sign[37]. This seems to confirm that standard equations are not sufficient to explain growth in transition countries: a wider set of variables is needed. For this reason, some institutional variables are added, consistently with the theoretical background exposed above.

Chart 4

Institutions and growth in post-communist countries

	(1)	(2)	(3)	(4)
Log GNI per capita, 1995	-0.008	-0.025**	-0.024*	-0.024
	(0.011)	(0.012)	(0.013)	(0.014)
Household Final Consumption	-0.020**	-0.059	-0.052	-0.048
	(0.050)	(0.054)	(0.059)	(0.071)
Investment	0.232	0.163	0.156	0.156
	(0.115)	(0.100)	(0.105)	(0.104)
Government Expenditure	-0.094	-0.068	-0.061	-0.058
	(0.075)	(0.072)	(0.078)	(0.089)
Openness	-0.017	-0.029**	-0.030**	-0.030**
	(0.012)	(0.011)	(0.011)	(0.011)
Secondary School Enrollment	0.016	-0.050	-0.055	-0.056
	(0.051)	(0.071)	(0.076)	(0.081)
Life Expectation at Birth	0.004	0.003	0.003	0.003
	(0.003)	(0.002)	(0.002)	(0.002)
Oil Dummy	0.011	0.012	0.012	0.013
	(0.014)	(0.013)	(0.013)	(0.014)
Former Soviet Union Dummy	0.025	0.016	0.016	0.017
	(0.018)	(0.015)	(0.016)	(0.016)
Political Stability		0.019**	0.020**	0.020*
		(0.009)	(0.009)	(0.010)
Improvement in Rule of Law index		0.022**	0.022*	0.021*
		(0.010)	(0.011)	(0.012)
Property Rights Protection			0.000	
			(0.001)	
Overall Economic Freedom				0.000
				(0.001)
N	24	24	24	24
R^2	0.702	0.808	0.809	0.809

OLS, robust standard errors in parenthesis. Data from WDI 2009, except for openness to trade, which is from Penn World Tables. Investment Freedom, Property Rights Protection and Overall Economic Freedom data are from Heritage Foundation Economic Freedom Index. Levels of significance: *=90 per cent; **=95 per cent; ***=99 per cent.

[37] This could be due to excess of import increase after the collapse of communism. Since this index of openness represents the trade volume on GDP ratio, it could be biased by high consumption import volumes. See Winiecki, Jan «Solving foreign trade puzzles in post-communist transition.» Post-Communist Economies 12, n.3 (2000): 261-278.

The results shown in column (2) are indeed more satisfying: overall R^2 is above 80 percent and both Political Stability and Improvement in Rule of Law Indexes show positive coefficient and statistical significance. Again, the size of the coefficient is not negligible, as it approaches 0.02 for both variables. Thus, both political stability and rule of law are positively correlated with long-run growth in selected countries, according to the theory exposed above. "Good" environmental conditions seem to have a cumulative 4 per cent positive effect on long-run average growth rate in post-communist countries.

In column (3) a proxy for economic institutions is added. It is the Property Rights Protection Index, realized by Heritage Foundations, ranging from 0 to 100, with higher values standing for better protection of property rights[38]. coefficient for the last regression are shown. Political Stability remains highly significant and Improvement in Rule of law reports positive and significant coefficient. This index presents some problems of collinearity with the rule of law one. This is due to the difficult to measure in a complete separate way economic and legal institutions aspects. Indeed, the results in column (3) show a very low positive effect of Property Rights Protection but not statistically significant, while both political stability and increase in rule of law remain significant.

In column (4) a last regression is run, including a different proxy for economic institutions. This is the Economic Freedom Index published yearly by Heritage Foundation[39]. It is a composite index, which includes also the previous property rights protection one and it is calculated on the same range basis. While political stability and rule of law remain significant and positive, economic freedom reports a very low coefficient and it is not significant.

The overall results is satisfying with reference to environmental conditions while it is not for economic institutions one. Further research and more data are needed.

Connecting democracy and institutions

The first analysis seems to confirm that institutional variables are helpful to economic growth, especially those who shape the environment in which economic transactions are carried on. Following the theoretical scheme presented above, the second step aims at the introduction of a proxy for the level of democracy within the country in order to search for a relationship between the selected institutional variables and democracy. This method is chosen to test the existence of an indirect relationship between democracy and growth. For this purpose the Freedom House Political Rights Index is chosen[40].

[38] Miles, Marc A.; Fuelner, Edwin J.; O'Grady, Mary Anastasia. «Index of Economic Freedom.» Heritage Foundation (2009).

[39] Another interesting economic freedom index is published by the Fraser Institute, but it doesn't cover the selected sample of countries before the year 2000.

[40] *Freedom in the World 2009*, Freedom House, methodological explanation and details on www.freedomhouse.org.

The raw correlations between democracy and the selected institutional variables are shown in Chart 5. The upper part of the chart refers to the whole sample, while the lower only to European Accession Countries[41]. This method is chosen to try to analyze the European Union role in shaping countries institutions. Political Stability and Rule of Law are linked to democracy in a quadratic form, since it appears to be more suitable to catch the relationship involved.

Chart 5

Democracy and institutions: a direct correlation

	Political Stability (1)	Rule of Law (2)	Increase in Rule of Law (3)	Property Rights Protection (4)	Overall Economic Freedom (5)
Political Rights	-1.437	-0.227	0.334**	-2.819	-2.458
	(1.109)	(0.498)	(0.137)	(2.675)	(1.423)
Squared Political Rights	2.750***	1.905***			
	(0.855)	(0.460)			
N	28	28	28	28	28
R^2	0.711	0.898	0.117	0.033	0.077
Political Rights	-4.347**	-0.958	0.470*	-2.672	-1.887
	(1.634)	(0.909)	(0.231)	(2.888)	(2.193)
Squared Political Rights	4.863***	2.409***			
	(1.241)	(0.779)			
N	16	16	16	16	16
R^2	0.799	0.893	0.364	0.050	0.051

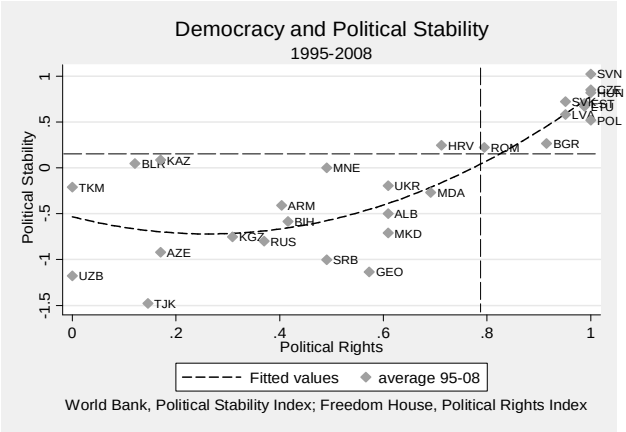
OLS, robust standard errors in parenthesis. Data from WDI 2009. Levels of significance: *=90 per cent; **=95 per cent; ***=99 per cent. Columns reports different dependent variables for the same independent one.

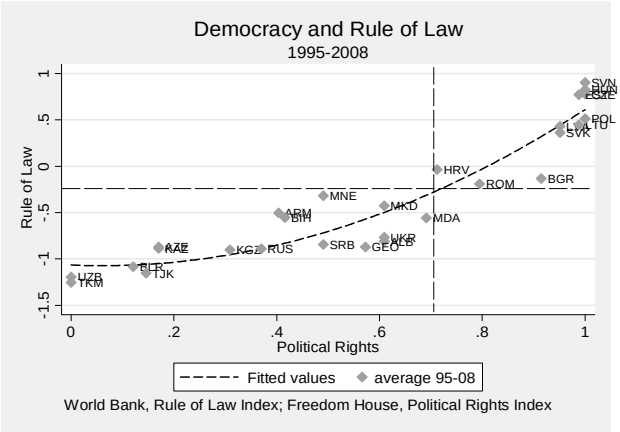
All the results for environmental conditions show positive and significant correlations. Political stability presents a particularly interesting finding, since the relationship became positive only for values of political rights index higher than 0.3. The reason could be found in the nature of the selected sample. In a fifteen years time period low average values of democracy could include disturbances caused by transition: in other words, a not-democratizing authoritarian regime is likely to be more politically stable than, or at least as stable as, a transitional one. Thus, it makes sense that for very low levels of democracy there is a negative relationship, a neutral one for middle-low values and a strong positive one for higher levels. Also rule of law regressions report positive an dsignificant coefficient. Thus, political rights and rule of law seem to follow a parallel pattern. Comparing the results for EU accession countries with those of the whole sample an interesting result is found: rule of law seems to be positively affected by the role of European Union membership process, while political stability does not. This could be reflect the higher values for both variables in the reducted sample. In other words, for higher values of political rights a further increase does not necessarily improve political stability. Besides, increase in political rights index is positively correlated with higher political stability also for not-EU related countries. This could be further stress the

[41] All EU members and official candidates are included.

positive role of democracy for institutional improvement. Figures 1 and 2 give a snapshot idea of the existing relationship between political rights and environmental conditions.

Figures 1-2





The dashed lines depict an upper-right area which includes the most "virtuos" countries, i.e, those which present higher values both for political rights and political stability. Interestingly, these are EU accession countries, plus Croatia in the rule of law graph. This could confirm the positive role of EU accession process for improving institutions in these countries.

The last two results in Chart 5 are less satisfying. Political rights seems to be negatively correlated both with overall economic freedom and property rights protection, but not significantly. This could be reflect the negative effect of an "excess" of democracy for property rights through higher government expenditure.By the way, it is interesting to see that EU Accession countries reports a less negative coefficient: in this case, it is likely that EU has been able to positively affect institutions.

A different index, namely the Economic Freedom in the World Index is used to search for confirmation of these results. This index is different from the previous ones both for rangig scale (0-10) and countries coverage (only 14[42] of this paper's selected countries). The results with this index are indeed very different from the periovous ones: a strong and linear correlation is obtained, as shown in Chart 6.

Chart 6

Democracy and economic freedom

Variable	Economic Freedom Index
Political Rights Index	1.607***
	(3.262)
N	14
R^2	0.864

OLS, robust standard errors in parenthesis. ***=99 per cent level of statistical significance.

[42] Albania, Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovak Republic, Slovenia, Ukraine.

The last finding reflects the difficult in measuring institutional development especially for transition countries. Composition's criteria affect the measure of these indexes and consequently every related analysis.

As a last analysis the democracy-human capital relationship is tested using the same methodology. The two selected proxies for human capital shown in regression 1-5 in Chart 3 are regressed with political rights. The results are shown in Chart 7.

Chart 7

Democracy and human capital: a direct correlation

	Secondary School Enrollment (1)	Life Expectation (2)
Political Rights	0.096**	7.122***
	(0.037)	(1.244)
N	28	28
R^2	0.207	0.461
Political Rights	0.103**	4.837**
	(0041)	(1.793)
N	16	16
R^2	0.231	0.301

OLS, robust standard errors in parenthesis. Significance level:**= 95 per cent ***=99 per cent.

Results in column (1) could reflect inverse causation, but it is anyway interesting to see that a positive relationship does exist and that it is significant. The coefficient for EU Accession countries is slightly greater than the whole sample's one.

Results in column (2) are also interesting. A positive and significant correlation between democracy and life expectation exists. The coefficient is higher for the whole sample. This finding combined with the previous one seems to confirm that democracy has a positive effect on human capital.

The results confirm the hypothesis that increasing democracy is positively correlated both with higher education and higher life expectation. Thus, democracy seems to play a positive indirect effect on growth also through the human capital channel.

Conclusions

The experience of former communist countries turns out to be a good test for the indirect democracy/growth relationship.

Environmental conditions, namely political stability and rule of law present a positive and significant correlation with economic growth, confirming the recent economic theory. Economic institutions reports negligible and not significant coefficient. Thus, for the selected sample transition from communism to open market economy seems to have been driven by policies aiming at institutional improvement.

Democracy, proxied by the Freedom House Political Rights Index, shows positive and significant correlation with environmental conditions, with an indirect positive effect on economic growth. The relationship between democracy and economic institutions results uncertain and by the way not significant. Thus, The process of democratization seems to have been more successful for economic growth in presence of "good" institutions. That may confirm the hypothesis that a relationship between democracy and growth does exist but it is un indirect one.

This study represents a starting point for further research in order to improve the knowledge and understanding of the process linking different regime types to different institutions design and, indirectly, to different long-run growth performance.

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