Democracy and Prosperity in two Decades of Transition

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Abstract

This paper revisits the relation between democracy, liberalization, and prosperity in transition countries, using a panel of 25 countries over 19 years. Earlier investigations found political and economic liberalization to be positively correlated whereas the relation between political liberalization and prosperity remained unclear. In this paper, a hump-shaped relationship between political liberalization and growth is found, such that a rise in democracy levels promotes growth only under initially low democracy levels. Furthermore, economic and political liberalization turn out to be positively related, but with surprisingly small coefficients.

JEL Classification Code: O43, P16, P36

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1. Introduction

In a certain way, the formerly socialist countries of Middle and Eastern Europe as well as the former Soviet Union represent a natural experiment on the question as to whether economic reforms are more likely to be successful when performed by either authoritarian or democratic governments. Each of these countries started out with more or less strictly anti-democratic governments, and each of these countries was as far from a western-type market economy as a country could be.[1] It is therefore no wonder that the effects of democratization on the respective government's reform capacity became one of the most prominent topics in the debate around timing and sequencing of transition processes. Most of the later EU members democratized first and then immediately embarked on a rather consistent process of market reforms. The more we move to the east, however, the more countries we find which are more hesitant with respect to both the process of democratization and that of market reforms. In south-east Asia, however, there is still another variant, namely that of China and, to certain extent, also Vietnam. Here, the communist rulers remained in place and even officially retained the Marxist ideology while at the same time they installed genuine capitalist structures, which resulted in startling growth, but also in exorbitant inequality.

Within Middle and Eastern Europe and the former Soviet Union, we can by now find all sorts of governmental structures, ranging from western-type full-fledged democracies to presidential dictatorships. The question as to whether the structure of political systems has influenced the speed and consistency of market reforms and also prosperity in the post-socialist countries has been addressed occasionally but not with conclusive results. Most of the literature on this topic goes back to the 1990s and early 2000s. This paper revisits the relation between democracy on the one hand and prosperity in terms of per capita growth in

[1] Some minor differences were certainly present, especially in Poland, Hungary, and the former Yugoslavia, but that does not revise the principle.

GDP as well as reform capability on the other, using a panel data set of 25 formerly socialist countries that ranges from 1989 to 2007.

The paper is organized as follows. In the next section, a brief overview of the theoretical and empirical literature on the relation of democracy and prosperity in general and with respect to formerly socialist countries is given. In the third section, the data panel is described and some descriptive statistics are presented. The relation between the degree of democracy and per capita growth is investigated in section four, and the relation between democracy and reform capability is explored in section five. Section six concludes.

2. Relating Democracy and Prosperity in the Literature: Theory and Empirical Findings

Somewhat roughly, we can split the theoretical literature on our topic in two branches (*Glaeser* et al., 2004). In one branch democracy is assumed to have the character of a consumption good, presumably exhibiting positive income elasticity (*Minier*, 2001). As far as democracy has a negative elasticity of substitution with respect to other material and non-material consumption goods, it comes at a cost in terms of foregone alternative consumption of goods and services.[2] In the other branch, democracy is characterized as an investment good or, put differently, an input of the macroeconomic production function. Here, it provides some politico-institutional preconditions for prosperity, thus raising productivity of the other factors of production.

Concerning the first branch there are three major lines of reasoning on the question as to why democracy may reduce overall efficiency. First of all, democracy may reduce the degree of governmental autonomy as compared to autocracy. One may think of this to be true almost by implication. However, things are slightly more complex as will be seen below. Secondly,

[2] To a certain extent, *Lipset*'s (1959) famous modernization hypothesis is an early version of this branch of the literature.

democracy reduces the rate of time preference in policy making. Given a usual income distribution, the median voter's income and wealth is below average which motivates him to ask for redistributive politics. This, in turn, allocated resources away from investment and into consumption, resulting in lower rates of growth under the assumptions of new growth theory (*Alesina/Rodrik*, 1994; *Persson/Tabellini*, 1994; *Parente*, 2006). The third line of reasoning rests on incentives for postponing reform measures in order to gain scope for more favorable distributive positions. The latter is even possible in the case of strictly *Pareto* improving reform programs when the respective group interests happen to structure themselves into the preconditions of a war of attrition game. This applies when each party has a positive expected value of the difference between the gains from redistribution forced by way of postponing a reform on the one hand and the losses in personal income growth in the case of an actually postponed reform (*Alesina/Drazen*, 1991).

Whereas all three lines of reasoning have their appeal they may also be subject to severe objections, even that of being a nirvana approach (*Demsetz*, 1969). This is so since the alternative to democracy is all but immune against special interests and struggles for redistribution. Like democratic governments, the leaders of dictatorships are restricted in their activities by a threat of being removed from office by way of violence. The fact that this threat stems from revolutions and coups rather than from elections does not means that it is not associated with struggles for redistribution (*Tullock*, 1971; 1987; *Acemoglu/Robinson*, 2006; *Besley/Kudamatsu*, 2007). However, the restrictions for democratic and autocratic governments, respectively, are certainly of different types and so may be the resulting effects on redistribution, efficiency, and reform capability. Hence, any analysis requires comparative institutional approaches in order to identify effects of some political and constitutional order as compared to some other.

In a number of papers, *Olson*[3] has analyzed the incentive structure of governments in both dictatorships and democracies. As a starting point, he has distinguished from each other what he has called stationary bandits and roving bandits, respectively. Consider a geographic region comprising of a certain number of scattered settlements. As long as the region has no centralized protective-state structure in *Buchanan's* (1975) sense, there is *Hobbesian* anarchy across the settlements. Roving bandits would then have an incentive to move from one settlement to another and rob each of them up to the point where marginal "revenue" from each settlement becomes zero. For the most part, this means to leave no intact structure behind. As the number of not yet robbed-out settlements decreases, the incentive for roving bandits to become stationary rises. To that end, they can define personal spheres of interests in terms of certain sub-regions, use force in order to keep competing bandits from intruding and focus on seizing resources from the inhabitants of "their" region alone. They may also call their booties taxes and claim legitimacy as kings or emperors.

The point here is that stationary bandits have an incentive to keep the structure of "their" region intact and to spend some of their booties (or taxes) for investments in infrastructure, or even education and health. Hence, dictatorship may be superior to anarchy in terms of welfare. However, as long as there are rents from a position of king, stationary bandits will have to spend a part of these rents for redistributive purposes as well. This is so since they will have to please potential challengers which might otherwise want to replace the incumbents by themselves. Then, the difference between dictatorship and democracy is that, in the former, rents have to be distributed to relatively small but potentially threatening groups who may organize coups. Democratic governments, by contrast, have to please a majority rather than some narrow elites. This, in turn, makes democracies superior to dictatorship in *Olson*'s view.

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[3] See, e.g., *Olson* (1991); *Olson/McGuire* (1996).

Wintrobe (1998) distinguishes pure personal-welfare maximizing "tin-pot dictators" from ideologically motivated totalitarian dictators. Whereas the latter are more or less incalculable by nature, the formers' propensity to pursue reform programs rests, *inter alia*, on their rate of time preference. Hence we can expect the young king of a stable hereditary monarchy to be more reform oriented than a military dictator who faces the threat of a coup any time. While the king is much of a stationary bandit, we would expect the military dictator to behave more like a roving bandit in *Olson*'s terms.

Based on *Olson*'s reasoning *Besley* and *Kudamatsu* (2007) analyze under what conditions democratic or autocratic governments may be expected to pursue welfare enhancing reform programs. Unfortunately, there is no general answer on that. Rather, it is conditional on certain parameter values. Moreover, even if these values were known in advance, this would be of mere academic interest since it is practically impossible to set some dictator in office and commit him on pursuing some sort of economic reforms. Any such commitment would not be credible unless each future reform step would be in the dictator's personal interest at the time it is to be decided upon. Apart from such a case, one could credibly commitment a dictator only by way of retaining the ultimate sources of power in order to remove him from office whenever he should fail to deliver on his reform promise. That, however, would mean to deprive a dictator of the very instruments that make him a dictator in the first place. Finally, there is no answer on who may legitimately retain the ultimate sources of power and to decide on whether or not to maintain the dictator's appointment. There is clearly an infinite regress in legitimation here. As a result, there may well be dictatorships that happen to face incentives for pursuing efficiency-enhancing reforms. And there are clearly empirical examples of that. However, that does not imply the feasibility of a strategy of deliberately enthroning a dictator conditional on his obligation to exploit his alleged extra degrees of freedom for pursuing consistent economic reforms.

Summing up, a dictatorship may happen to be a good economic reformer, but so does a democracy. Neither form of government has a univocal advantage with respect to economic reforms from the point of view of mere theoretical considerations. Moreover, even if authoritarian governments had indeed a broader scope of governmental discretion, it would still face the problem that a dictator cannot credibly be committed to a certain (reform) policy for reasons of a dictatorship's very nature.

Turning to the empirical analysis of the relation between political systems and economic prosperity, the picture is again mixed at best. Even when relating the *level* of, instead of *growth* in, per-capita income to the degree of democracy, the results are less clear than it seems at first glance. While there is indeed a close correlation between democracy and per-capita income on a world-wide basis, this correlation may be misleading for a number of reasons, such as endogeneity problems and those of unobserved variables (*Decker*/*Lim*, 2007; *Acemoglu* et al. 2008).

When it comes to *growth* in per-capita income, things are even less clear. As early as in 1993, *Przeworski* and *Limongi* (1993) surveyed 18 empirical papers on the relation between democracy and growth. In eight papers, significantly higher growth rates have been found in countries with dictatorships or bureaucratic-authoritarian governments as compared to democracies; in five cases, it was the other way round, and in two cases there was no significant difference at all. An early survey by *Sirowy* and *Ingles* (1990) brought similar results. In a widely recognized paper, *Barro* (1996) found a hump shape of the influence of democracy on growth in a panel comprising of approximately 100 countries: Growth tended to accelerate with the degree of democracy up to a certain maximum but slowed down with higher degrees of democracy. However, his results were only partly significant. *Rivera-Batiz* (2002) estimated the influence of democracy and good governance on total factor productivity within a framework of new growth theory. He found that democracy significantly influenced total factor productivity, but only as long as indicators of good governance were omitted from

his regressions. Upon inclusion of good-governance indicators the coefficients for the democracy indicator turned insignificant.

Mulligan et al. (2000) tested the influence of democracy on some more specific policy instruments. Apart from those policy instruments which are directly related to securing political monopoly in dictatorships they did find practically no significant relation between democracy and measures of economic and social policy. More generally, findings on a positive relation between institutional quality and economic performance (e.g. by *Knack* and *Keefer*, 1995, or by *Hall* and *Jones*, 1999) have severely been criticized by *Glaeser* et al. (2004), and mainly for two reasons: Firstly, they present evidence that the direction of causality may run from high income to democracy rather than the other way round, and they secondly criticize the construction of the most common indicators since, in their view, these indicators do not represent deep institutional structures but rather pretty volatile policy choices.

Some authors studied the effect of regime changes, rather than the state of a regime, on growth. Although effects of democratization on growth and other performance indicators reported by *Giavazzi* and *Tabellini* (2005) tended to be positive, they were generally not very robust. *Minier* (1998) found a significantly negative effect of a switch from democracy to dictatorship, but not the other way round. Destruction of democracy hence reduced growth but democratization did not raise growth. In a related paper, *Minier* (2003) explored the effect of democracy movements on growth. In a shorter period of five years the emergence of such a movement reduced growth when governments made major concessions. As far as a government made only minor concessions or completely suppressed the revolt without concessions there were no or slightly negative effects. In the longer run of a ten-year period only the negative effect on growth in the case of major concessions remained significant. The author herself, however, cautioned against too far reaching conclusions, not least because many of the more recent democracy movements, e.g. in the formerly socialist countries, have

not been included in her study. *Persson* (2005) argues that a democracy-autocracy duality may be too rough in order to identify politico-institutional structures which determine welfare-enhancing or reducing policy strategies. He thus explores switches from dictatorship to different types of democracy, namely presidential or parliamentary systems and those with proportional representation as compared to those with majority rules. *Rodrik* and *Wacziarg* (2005) studied countries that democratized and then remained democratic for at least a five years period. They found a positive impact of democratization on growth. *Persson* and *Tabellini* (2007) report similar evidence. In both cases, however, the results are not always significant.

When turning to the post-socialist countries, the empirical basis is much weaker. It has early been recognized that there is a positive correlation between the degree of democratization and that of economic liberalization in those countries (*Åslund/Boone/Johnson*, 2001; *Dethier/Ghanem/Zoli*, 1999). In line with that, *Metelska-Szaniawska* (2009) found a positive influence of constitutional quality on reform progress in post-socialist countries. Although these findings are compatible with the general literature on the relation between democracy and liberalization (see, for example, *de Haan/Sturm*, 2003; *Rigobon/Rodrik*, 2005; *Pitlik*, 2008), the evidence for the post-socialist countries is still based on just a few investigations, most of which are not very recent.

Moreover, when turning to the further relation, namely the one between liberalization and growth, the evidence is still less conclusive. Albeit a number of authors have claimed a positive influence of that kind (*De Melo/Denzier/Gelb*, 1996; *Fischer/Sahay/Végh*, 1996; *Åslund/Boone/Johnson*, 2001), their results have been put in doubt by others. Specifically, *Krueger* and *Ciolko* (1998) as well as *Heybey* and *Murrell* (1999) criticized that repercussions from growth back to the level of liberalization had not been taken account of. *Fidrmuc* (2003) hence used instrument variables but still found a significant influence of the (estimated) degree of liberalization on growth for most of the periods under investigation.

Fidrmuc (2003) also found a tentatively positive influence of democracy on growth. However, that influence survived only as long as liberalization was omitted from the estimation. Upon inclusion of economic liberalization the coefficient of the democracy index turned negative and/or was insignificant. In order to check for a possible indirect influence of democracy on growth via liberalization, he applied a two-step estimation strategy. In the first step, he estimated the degree of liberalization, using democracy as regressor, and in the second step, he estimated growth as the dependent variable, using democracy as well as the residuals from the first step as regressors. He thus effectively included only that part of liberalization into the growth estimation which appeared uncorrelated with the democracy indicator. The effect is that the influence on growth stemming from that part of liberalization that can, in turn, be attributed to democratization will be shifted to the coefficient of the democracy index. As a result, the latter coefficient turned positive in all but one period, and in two out of seven periods, the coefficient was even significantly positive, albeit only on a 10-percent level.

However, this strategy may be questionable. First of all, it requires all potential control variables to be omitted from the first-step regression in order to exclude influences of factors other than democracy on the degree of liberalization. This, however, gives rise to an omitted-variable bias that distorts the measured influence of democracy on liberalization (in our case it most probably overstates it). Secondly, including only the residuals of liberalization from the first-step estimation into the regression on growth has, in principle, the same effect as omitting the liberalization index altogether, since the residuals of liberalization are uncorrelated with the democracy index. The biased coefficient that we have when we omit liberalization altogether will thus reappear through the omission of all but the democracy index in the first-step of the two-step estimation strategy. It is thus not surprising that the coefficients in both regressions are pretty similar, which applies particularly to those which are significant. These objections imply that the regressions do not provide reliable indications

for a growth-promoting effect of democracy in the post-socialist countries (nor do they suggest the opposite, though). This view is supported by those regressions in *Fidrmuc* (2003) which embodied both the democracy and the liberalization index, since the results of these were either insignificant or, as in one case, even significantly negative. In sum, we do as yet not have any reliable indication on how democracy may have impacted economic reform and prosperity in the formerly socialist countries, if at all. Hence I will revisit that question in the remainder of this paper.

3. Empirical Framework and Descriptive Statistics

For the purpose of my investigation, I use a panel consisting of data on 25 formerly socialist countries from Middle and Eastern Europe (MOEL) as well as the former Soviet Union, and Mongolia, ranging from 1989 to 2007. Prosperity is measured by the growth rate of real gross domestic product per capita. For measuring democracy, two different indicators are used. One is a non weighed average of the political rights (*PR*) and the civil rights (*CR*) indicator, as presented by *Freedom House*[4] on an annual basis. The original indicators range from one to seven, where seven indicates the lowest and one the highest degree of either political rights or civil liberties. Additionally, I use the *Polity IV* index[5] which is based on two scales, one of which indicates the level of autocracy and the other the level of democracy. Both indices range from zero to nine, with zero indicating the lowest and nine the highest respective level. The *Polity IV* index, then, is the sum of the democracy index minus the autocracy index. I have rebased both indices such that a value of one indicates the lowest and 10 the highest respective degree of democracy. In the following tables, the rebased average of the political rights and civil liberties index by *Freedom House* is referred to as the *FH* index.

[4] See Freedom House (various issues); see also: www.freedomhouse.org

[5] See www.systemicpeace.org/inscr/p4manualv2007.pdf for a detailed description.

Likewise, the rebased *Polity IV* (or simply *Polity*) index will be referred to as the *POL* index. Although the respective methodology behind the two indicators is different, the *Freedom House* and *Polity* indicators are closely correlated. For our sample, the correlation coefficient is 0.89 (t=41.5). Since the statistical properties of the two indicators are nevertheless different from each other and since both indicators are widely used, I tested the influence of both variables on the respective endogenous variable throughout the paper.

For measuring economic reform progress I used the economic liberalization index by the European Bank for Reconstruction and Development (*EBRD*). Like the democracy indices this index is also commonly used in the analysis of transition countries. The *EBRD* index measures the degree of economic liberalization in the formerly socialist countries of Middle and Eastern Europe, the former Soviet Union, and Mongolia. It consists of 14 partial indicators, ranging from privatization over price and foreign-trade liberalization to infrastructure reform.[6] Like in the case of the *Freedom House* index I took the non-weighed average of all partial indicators and rebased it such that a value of 1 is associated with a complete centralization of the economy (a centrally planned economy) whereas a value of 10 indicates a full-fledged market economy with the highest degree of economic liberalization.

In line with standard economic growth theory I have included a number of most common control variables, namely per capita GDP and investments as well as governmental spending in percent of GDP. Furthermore, I also tried different indicators for human capital endowment. Probably due to reliability of these data within a panel data setting of the countries under investigation, all these indicators turned out to be insignificant, so I dropped them from the panel. Table 1 gives a descriptive overview of the institutional indices as well as of per capita GDP by country for an early and also for a more recent period.

[6] See *EBRD* (various issues); see also www.ebrd.com/country/sector/econo/stats/index.htm.

Indicator	*Freedom House*		*Polity IV*		*EBRD* Indicator		growth per capita	
Variable	*DEM_FH*		*DEM_POL*		*LIB*		*G_GDP*	
years	92-95	04-07	92-95	04-07	92-95	04-07	92-95	04-07
Albania	6.4	7.3	8.2	9.1	3.7	6.4	0.3	0.6
Armenia	6.4	4.6	8.2	8.2	2.8	7.3	3.1	12.3
Azberbaijan	2.8	3.7	4.6	2.8	1.9	5.5	-21.6	20.3
Belarus	5.5	1.9	8.2	2.8	2.8	3.7	-10.4	9.7
Bulgaria	8.2	9.1	9.1	10	4.6	8.2	1.6	6.7
Croatia	5.5	8.2	3.7	9.1	4.6	8.2	-0.1	4.6
Czech Republic	9.1	10	10	10	7.3	9.1	2.6	5.5
Estonia	8.2	10	8.2	8.2	6.4	10	1.3	8.2
Hungary	9.1	10	10	10	7.3	10	1.4	3.6
Kazakhstan	3.7	3.7	3.7	2.8	2.8	7.3	-9.3	8.3
Kyrgyz Republic	6.4	4.6	4.6	6.4	4.6	6.4	-15.3	3.4
Latvia	7.3	10	9.1	9.1	5.5	9.1	0.2	10.5
Lithuania	8.2	10	10	10	5.5	9.1	-7.6	8.2
Macedonia, FYR	6.4	7.3	8.2	10	4.6	7.3	-4.1	4.1
Moldova	4.6	6.4	8.2	9.1	3.7	6.4	-13	6.6
Mongolia	8.2	8.2	10	10	3.7	6.4	0.3	7.5
Poland	9.1	10	9.1	10	7.3	9.1	5	5.4
Romania	5.5	8.2	8.2	10	3.7	8.2	4.3	6.6
Russian Federat.	6.4	3.7	7.3	8.2	4.6	7.3	-8.8	7.4
Slovak Republic	7.3	10	9.1	10	6.4	9.1	2.3	7.3
Slovenia	9.1	10	10	10	5.5	8.2	4	4.9
Tajikistan	1	3.7	2.8	4.6	1.9	4.6	-19.9	6.4
Turkmenistan	1	1	1.9	1.9	1	1.9	-12.3	11.9
Ukraine	6.4	7.3	8.2	8.2	2.8	6.4	-17.7	7.8
Uzbekistan	1	1	1.9	1.9	2.8	4.6	-4.9	6.3

Sources: European Bank for Reconstruction and Delelopment; Freedom House; Polity IV Project; World

Sources: European Bank for Reconstruction and Development; Freedom House; Polity IV Project; World Bank, World Development Indicators.

Table 1: Descriptive Statistics

Since the formerly socialist countries started transition at different times, some authors have found it appropriate to deviate from calendar time (*Falcetti* et al. 2002; *Falcetti* et al. 2005; *Metelska-Szaniawska* 2009). Instead, they based their periods on the respective year of transition start. For example, *t*=1 would be 1989 for Poland and Hungary, but 1992 for Russia or the Ukraine. Such a procedure seems appropriate especially for the early period of transition in order to keep track of reforms from the respective transition start on. Doing so, however, comes at a cost as well. Over time, the precise start of transition may not play a

crucial role any more. On the other hand, certain region-wide or even world-wide shocks cannot be taken into consideration anymore, for example by fixed period effects, without arbitrarily introducing dummies for specific years. Hence, using calendar time as well as using periods beginning with transition start have their respective advantages and drawbacks. So I used both for the most part of this paper. I call usual calendar-time based periods *realtime* (*RT*), whereas those that are based on transition start *transtime* (*TT*).

4. Democracy and Growth in (almost) two Decades of Transition

A first impression of the relation between democracy and prosperity in transition countries is given by table 2, where simple correlations between the level of gross domestic product (*GDP_PC*) and growth in per capita *GDP* (*G_GDP*) are presented. Growth is defined as the log difference in *GDP_PC* between $t+1$ and t. Democracy is measured by DEM_{it}, where this index comes either as DEM_FH_{it} for the *Freedom House* indicator or as DEM_POL_{it} for the *Polity* indicator. The two first rows mirror the world-wide situation with respect to democracy and per capita *GDP*, namely that it is the rich countries that exhibit the highest levels of democracy (*Acemoglu* et al. 2008).

All correlations between *GDP_PC* on the one hand and both the *Freedom House* and the *Polity* indicators are strong and significant. This is true for the real time and the transition time data alike. When looking at the correlation between growth and the democracy indicators, the picture is less clear. While only one of the non-lagged democracy indicators is significantly correlated with growth at all, all other correlations are insignificant. The signs are positive for the only significant correlation and negative for the others. The lagged democracy indicators for real time, however, are again both positively correlated with growth and strongly significant. However, their counterparts for transition time are positive but insignificant. So, if any, the data suggests a positive correlation between democracy and future growth.

	GDP_PC	*GDP_PC*	*G_GDP*	*G_GDP*
	RT	*TT*	*RT*	*TT*
DEM_FH	0.67***	0.67***	0.11***	0.04
	(18.50)	(18.30)	(2.26)	(0.67)
DEM_POL	0.52***	0.55***	0.05	-0.05
	(12.94)	(12.78)	(0.92)	(-0.86)
DEM_FH(-1)	0.63***	0.68***	0.18***	0.03
	(17.34)	(17.93)	(3.81)	(0.60)
DEM_POL(-1	0.49***	0.54***	0.16***	-0.03
	(12.00)	(12.39)	(3.31)	(-0.52)
FH: Freedom House; POL: Polity; RT: Realtime; TT: Transtime				
*p<0.1; **p<0.05; ***p<0.01; t-values in paranthesis				

Table 2: Correlations between democracy indicators and growth

For a closer analysis of the relation between democracy and prosperity, I generally use the following estimation equation:

$$G\_GDP_{it} = \beta_0 + \beta_1 \cdot DEM_{it} + \beta_2 \cdot LIB_{it} + \boldsymbol{\alpha} \cdot \boldsymbol{X_{it}} + e_{it}. \quad (1)$$

Here, *i* indicates cross sections (countries) and *t* periods (years), $\boldsymbol{\alpha} \cdot \boldsymbol{X_{it}}$ is a vector of the control variables, and e_{it} is the error term. Table 3 presents the results of an ordinary least squares estimation without and then also with fixed country and period effects.

Unlike what the simple correlations suggest, we find a rather negative influence of democracy on per capita growth in *GDP* whenever the coefficients are significant. Only two out of the respective eight non-lagged and lagged coefficients are positive, and these are clearly insignificant. For the real time data the non-lagged *Polity* indicator appears to be strongly significant and negative, whereas the lagged *Polity* indicators are positive but insignificant. This picture does not change upon estimating fixed country and fixed period effects. The non-lagged *Freedom House* indicator is negative and insignificant without and positive and insignificant with estimation of fixed effects.

Only without fixed effects will there be a significant influence of the *Freedom House* indicator. Here it is the lagged indicator which is again negative, but only significant on the 10 percent level. For the transition time data, the *Freedom House* indicator is negative and

weakly significant in its lagged version but not in the non-lagged version, which is true with or without inclusion of fixed effects. The lagged *Polity* indicator is negative and weakly significant upon estimation of fixed effects. Without fixed effects it is the non-lagged indicator which is negative and weakly significant.

dep. variable: *G_GDP*	1	2	3	4	5	6	7	8
democracy index	*FH*	*POL*	*FH*	*POL*	*FH*	*POL*	*FH*	*POL*
time	*RT*	*RT*	*RT*	*RT*	*TT*	*TT*	*TT*	*TT*
estimation	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
C	0.14	2.75			5.53***	7.37***		
	(0.06)	(1.21)			(2.65)	(3.50)		
DEM	-0.63	-1.33***	0.13	-1.08***	0.00	-0.83**	0.29	-0.05
	(-1.62)	(-4.09)	(0.29)	(-3.07)	(-0.01)	(-1.98)	(0.57)	(-0.13)
DEM(-1)	-0.74*	0.36	-0.67	0.19	-1.05*	-0.01	-0.75*	-0.64*
	(-1.81)	(1.07)	(-1.61)	(0.58)	(-1.93)	(-0.02)	(-1.67)	(-1.79)
LIB	3.43***	3.02***	2.98***	2.74***	2.43***	2.22***	0.27	0.24
	(15.94)	(14.95)	(5.29)	(5.40)	(10.15)	(10.09)	(0.49)	(0.48)
GDP_PC	-0.00***	-0.00***	-0.00***	-0.00***	-0.00**	-0.00***	-0.00***	-0.00***
	(-3.16)	(-4.21)	(-5.73)	(-6.63)	(-2.42)	(-3.25)	(-4.10)	(-4.46)
GOV	-0.36***	-0.42***	-0.28***	-0.29***	-0.42***	-0.44**	-0.17*	-0.16
	(-4.63)	(-5.44)	(-2.75)	(-2.87)	(-5.98)	(-6.37)	(-1.73)	(-1.63)
INV	-0.02	-0.03	-0.14***	-0.14***	-0.04	-0.05	-0.18***	-0.18***
	(-0.48)	(-0.63)	(-2.95)	(-3.00)	(-0.86)	(-1.11)	(-3.82)	(-3.74)
fixed c. effects	no	no	yes	yes	no	no	yes	yes
fixed p. effects	no	no	yes	yes	no	no	yes	yes
periods incl.	17	17	17	17	17	17	17	17
cross sec. incl.	25	25	25	25	25	25	25	25
observations	419	419	419	419	370	370	370	370
R-squared	0.47	0.48	0.66	0.66	0.31	0.32	0.62	0.63
Adj.*R*-squared	0.47	0.47	0.61	0.62	0.29	0.30	0.57	0.57
F-statistic	61.73	62.66	15.41	16.04	26.66	27.85	11.50	11.72
FH: Freedom House; *POL*: Polity; *RT*: Realtime; *TT*: Transtime								
*p<0.1; **p<0.05; ***p<0.01; t-values in paranthesis								

Table 3: Democracy indicators and growth

Hence, the first regression approach suggests quite the opposite of the correlations in table 1. If anything, democratization seems to reduce per capita growth. However, this effect is not fully convincing, too, which becomes particularly clear when fixed country and period effects are included in the estimation. Still, even then is the influence of democracy on growth negative, as far as there is any significant influence at all. One may attribute this tentatively negative effect to the fact that high income is correlated with higher levels of democracy. The

reason is that, within the framework of neoclassical growth theory, adjustment processes to new steady states imply that non-democracies, *ceteris paribus*, grow faster because of their lower initial income level. By the same token, the relatively rich democracies would naturally grow with lower rates. However, in our regression this effect is controlled for through the inclusion of the level of per capita *GDP*. As expected, the respective coefficients are all strongly significant and negative, albeit very low.

All control variables except investment as percent of *GDP* (*INV*) have their expected signs. The latter are negative for all versions and in part significantly so. The degree of liberalization of the economy (*LIB*), as measured by the *EBRD* transition indicator, has a positive impact on growth and is significant in most cases, as expected. The latter result is in line with most of the empirical literature on that relation.

In the above cited paper by *Barro* (1996), he found a hump-shaped influence of democratization on growth. Namely, democratization supported growth within a range of low initial levels of democracy, whereas it reduced growth for some higher initial levels. This result has been tentative but it may nevertheless be worthwhile to test such a possible relation for the countries under analysis here. I have done so following two standard approaches. In the first approach I have defined a dummy variable for high (*dem_dum_hi*), medium (*dem_dum_med*) and low levels (*dem_dum_lo*) of democracy, respectively. Since most of the differences in variation between *Freedom House* and *Polity* data is levelled out upon introduction of the dummies, I have defined dummies only for one of the indicators, namely the *Freedom House* indicator. The dummies are defined in such a way that each category covers one third of all data points. Since most countries have already reached relatively high levels of democracy after some three or four years of transition, the dummy for high levels of democracy captures all data points above a value of 9 and the dummy for low levels comprises all data points below 5.5 of the rebased data. The results are presented in the first two rows of table 4.

dep. Variable: *G_GDP*	1	2	3	4	5	6
democracy index	*DEM_DUM*	*DEM_DUM*	*FH*	*POL*	*FH*	*POL*
time	*RT*	*TT*	*RT*	*RT*	*TT*	*TT*
estimation	OLS	OLS	OLS	OLS	OLS	OLS
DEM			2.45***	1.90	1.66	2.27*
			(2.62)	(1.59)	(1.39)	(1.68)
DEM^2			-0.25***	-0.23**	-0.19*	-0.26**
			(-2.96)	(-2.26)	(-1.92)	(-2.38)
DEM_DUM_HI	-1.65	-0.40				
	(-1.18)	(-0.32)				
DEM_DUM_LO	-0.33	0.95				
	(-0.28)	(0.82)				
LIB	2.41***	0.51	2.39***	2.54***	0.77	0.75*
	(5.20)	(1.07)	(4.89)	(5.62)	(1.61)	(1.72)
GDP_PC	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***
	(-5.27)	(-3.90)	(-4.62)	(-6.64)	(-3.05)	(-4.87)
GOV	-0.31***	-0.23**	-0.31***	-0.29***	-0.24**	-0.26***
	(3.12)	(-2.31)	(-3.22)	(-2.98)	(-2.45)	(-2.63)
INV	-0.13***	-0.09*	-0.13***	-0.12***	-0.09**	-0.07
	(-2.74)	(-1.87)	(-2.76)	(-2.64)	(-1.97)	(-1.61)
fixed c. effects	yes	yes	yes	yes	yes	yes
fixed p. effects	yes	yes	yes	yes	yes	yes
periods incl.	18	18	18	18	18	18
cross sec. incl.	25	25	25	25	25	25
observations	432	393	432	432	393	393
R-squared	0.65	0.65	0.66	0.66	0.66	0.67
Adj.R-squared	0.61	0.60	0.61	0.62	0.61	0.62
F-statistic	15.16	13.62	15.62	15.96	13.95	14.62
FH: Freedom House; *POL*: Polity; *RT*: Realtime; *TT*: Transtime						
*p <0.1; **p <0.05; ***p <0.01; t-values in paranthesis						

Table 4: Dummies for democracy and non-linear effects

For the transition time indicators, they do indeed suggest a hump-shaped influence of democracy on growth, like in *Barro's* (1996) paper. However, the coefficients are not significant, which is also the case for the real-time data. In the latter case, even the structure of the coefficients is not in line with a hump shape. The same is true for lagged indicators which I have not presented in the table. I have hence pursuit a second approach and introduced the democracy indicators in a linear and additionally in a quadratic form. The results are presented in the remaining rows of table 4. All estimations include fixed country and period effects. All coefficients form a humped-shaped influence of democracy on growth as in *Barro* (1996), but not all are significant. In two cases, both the linear and the quadratic democracy coefficients are significant and in the two remaining cases the non-quadratic coefficient is not significant.

Even if we accept a hump-shaped influence of democracy on growth for the transition countries, interpretation of the hum shape deserves caution. The only thing such a result implies is that some indicators obviously affect economic growth in a certain structure. It remains an open question as to what is precisely measured with these indicators. This question is of particular importance with respect to institutional variables like the degree of democracy. It seems widely accepted that both *Freedom House* and *Polity* data are good indicators for political freedoms as well as for the accountability of governments. However, there may be gross differences in the way political freedoms affect growth, depending on the widely differentiated institutional structure, the political ideology, and other factors for which we have no reliable data. However, one may argue that the results presented in tables 3 and 4 may be biased for at least two reasons: Firstly, the "true" level of democracy may be captured by the indicators only on average (at best) such that these indicators appear to be stochastic. Secondly, there may be repercussions between growth and democracy such that, for example, higher growth rates facilitate a process of democratization.

In both cases, the right-hand variable (i.e. democracy) is correlated with the error term which biases the estimated coefficients. The standard approach for correcting for such a bias is to define an instrument variable which is strongly correlated with the right-hand variable but not with the error term and, for that matter, with the dependent variable. However, finding eligible instruments is a demanding task. It is all the more difficult in a panel-data setting like ours since here we need to have co-variation not only across countries but along time as well. Note that this co-variation has to be between the right-hand variable and the instrument but must not be between the instrument and the left-hand variable.

I have tried a number of potential instruments for democracy, e.g. military spending in percent of *GDP*. However, the results of all these estimations turned out to be not plausible according to any criteria. The reason most probably is that military spending is not only (negatively) correlated with the level of democracy but that military spending also affects

growth rates. This applies likewise to other potential instruments as well. The underlying endogeneity problems may, however, be not as aggravating as they seem. They are much more relevant in the cross-country literature on democracy and the *level* of per capita income as compared to our relation of democracy and income *growth*. Since growth, as defined here, is the log difference in per-capita *GDP* from period t to $t+1$, the underlying time structure does, in principle, not allow for a causality running back from *GDP* to democracy. However, there is admittedly considerable serial correlation in the estimations presented so far.

Hence, I have run regressions with autoregressive errors in order to reduce serial correlation. Additionally, I have introduced a control variable *TRANSTIME* for the number of years since the launch of transition. Also, I have estimated fixed country effects. The results of the AR(1) estimations are presented in table 5.

The picture is not very clear unless the respective democracy indicator is included in a linear and, additionally, in a quadratic form. There is only one out of four estimations which delivers a significant coefficient for the democracy indicator, namely the *Polity* indicator for real time data, which is negative. The other three are also negative, but insignificant. Upon inclusion of DEM^2 the sign of *DEM* turns positive in all estimations but again, only one of them is significant, and only weakly so. The quadratic form of the democracy index, however, exhibits a somewhat clearer picture. It is negative in all cases and in three out of four estimations it is significant. Hence, the structure of the coefficients again supports the impression of a humped shape, but the linear (positive) part of the hump lacks significance in all but one cases.

dep. variable: *G_GDP*	1	2	3	4	5	6	7	8
democracy index	*FH*	*FH*	*POL*	*POL*	*FH*	*FH*	*POL*	*POL*
time	*RT*	*RT*	*RT*	*RT*	*TT*	*TT*	*TT*	*TT*
estimation	AR(1)	AR(1)	AR(1)	AR(1)	AR(1)	AR(1)	AR(1)	AR(1)
DEM	-0.34	2.15*	-1.16***	1.22	-0.04	1.91	-0.51	0.82
	(-0.88)	(1.75)	(-3.67)	(0.88)	(0.10)	(1.43)	(-1.56)	(0.53)
DEM^2		-0.23**		-0.20*		-0.17		-0.11
		(-2.14)		(-1.77)		(-1.54)		(-0.89)
LIB	2.87***	3.02***	2.69***	2.65***	1.57***	1.59***	1.52***	1.49***
	(5.82)	(6.16)	(5.83)	(5.76)	(2.94)	(2.99)	(3.00)	(2.93)
GDP_PC	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***	-0.00***
	(-5.71)	(-4.88)	(-6.21)	(-6.42)	(-5.42)	(-4.34)	(-5.64)	(-5.70)
GOV	-0.23**	-0.25**	-0.22**	-0.21*	-0.18*	-0.18*	-0.17	-0.17
	(-2.04)	(-2.19)	(-1.99)	(-1.85)	(-1.68)	(-1.70)	(-1.59)	(-1.60)
INV	-0.11**	-0.11**	-0.11**	-0.10*	-0.20***	-0.20***	-0.20***	-0.19***
	(-1.99)	(2.04)	(-2.02)	(-1.87)	(-3.66)	(-3.60)	(-3.65)	(-3.52)
TRANSTIME	0.86***	0.87***	0.92***	1.01***	1.02***	0.99***	1.06***	1.10***
	(4.07)	(4.15)	(4.54)	(4.87)	(8.29)	(4.95)	(5.32)	(5.40)
fixed c. effects	yes	yes	yes	yes	yes	yes	yes	yes
fixed p. effects	no	no	no	no	no	no	no	no
periods incl.	17	17	17	17	17	17	17	17
cross sec. incl.	25	25	25	25	25	25	25	25
observations	405	405	405	405	367	367	367	367
R-squared	0.67	0.68	0.69	0.69	0.66	0.66	0.66	0.66
Adj.*R*-squared	0.65	0.65	0.66	0.66	0.63	0.63	0.63	0.63
F-statistic	24.96	24.57	26.20	25.63	21.01	20.51	21.23	20.57
FH: Freedom House; *POL*: Polity; *RT*: Realtime; *TT*: Transtime								
*p <0.1; **p <0.05; ***p <0.01; t-values in paranthesis								

Table 5: AR estimations for growth

In order to give an impression of the dimensions, consider the second row, where both the coefficient of the linear and that of the quadratic democracy index are significant. The median value of the *Freedom House* democracy index in the real-time data set is 6.25 and the average growth rate across all countries and years is 4.1 percent. Starting with these values I have figured hypothetical growth rates as forecasted by the marginal effects of changes in the democracy index from row 2 in table 5 under *ceteris-paribus* assumptions. The result is presented in figure 1.

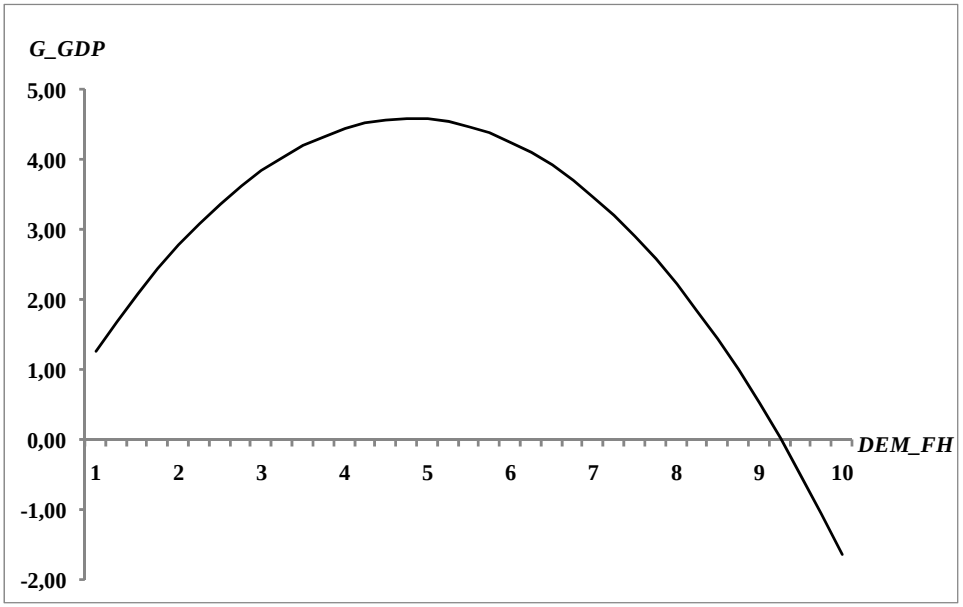

Figure 1: Hypothetical growth rates

According to figure 1 the highest growth rates would be realized at a pretty modest democracy level. Such a level is, for example, what the Ukraine had around the year 2000. High levels of democracy would, according to figure 1, be associated with low or even negative growth rates. This clearly contradicts intuition. However, the figure represents only the marginal effects of the respective democracy index. Its shape is not influenced by any other factor. Of the latter, the level of economic liberalization is clearly the most important factor since economic liberalization has a strong and significant influence on growth in any specification. Moreover, it is the democracies that embarked on the strongest liberalization path. Hence, economic liberalization and democratization are strongly correlated. The correlation coefficient between the *LIB* index and *DEM_FH* is 0.68 and that between *LIB* and *DEM_POL* is 0.59 in the real-time dataset (0.68 and 0.56, respectively, in the transition time data set) and both are strongly significant. This raises the question as to whether there is not just a correlation but also a causal relationship between democracy and liberalization. If this were the case, then it would suggest an indirect causality running from democracy to economic growth via economic liberalization. This is what has been suggested by *Fidrmuc*

(2003). A closer view at the relation between democratization and economic liberalization seems appropriate.

5. A Closer View at Democracy and Reform Capacity in Transition Countries

Simple *Granger* causality tests over two periods suggest that democracy does indeed cause liberalization but not vice versa. This is significant for both the *Freedom House* and the *Polity* indicators in real time and for the *Freedom House* indicator also in transition time. The test for *Polity* data in the transition time dataset, though, suggests causality running in both directions. With one lag, however, causality runs in a unidirectional way from democracy to liberalization for both indices and for both data sets.

I have estimated liberalization as a function of the two (one year) lagged democracy indices, using per capita *GDP* as well as the *TRANSTIME* dummy as control variables. All estimations are done with and without fixed country effects. Finally, I have again used first-order autoregressive errors in order to eliminate serial correlation. The results are summarized in table 6.

As long as fixed country effects are not estimated, both indicators are strongly significant but relatively low in the real time data set. Specifically, a rise in the respective democracy index by one point raises the liberalization index by either 0.16 (*Freedom House*) or by 0.09 (*Polity*) points. Upon inclusion of fixed country effects, the coefficients drop to only 0.05 (*Freedom House*) and 0.02 (*Polity*). Moreover, the latter even loses its significance. In the transition time setting, all but one coefficient are insignificant. Only the *Freedom House* index influences economic liberalization significantly, and only as long as fixed country effects are not included.

dep. variable: *LIB*	1	2	3	4	5	6	7	8
democracy index	*FH*	*POL*	*FH*	*POL*	*FH*	*POL*	*FH*	*POL*
time	*RT*	*RT*	*RT*	*RT*	*TT*	*TT*	*TT*	*TT*
estimation	AR(1)	AR(1)	AR(1)	AR(1)	AR(1)	AR(1)	AR(1)	AR(1)
C	15.80***	14.67***			23.46***	235.42		
	(3.36)	(3.50)			(2.68)	(0.59)		
DEM(-1)	0.16***	0.09***	0.06**	0.02	0.13***	0.02	0.04	0.01
	(6.78)	(4.71)	(2.23)	(0.76)	(4.14)	(0.80)	(1.31)	(0.22)
GDP_PC	-0.00***	-0.00***	-0.00***	-0.00***	0.00***	-0.00**	-0.00	-0.00
	(-6.65)	(-6.95)	(-4.76)	(-4.67)	(3.03)	(-2.23)	(-0.07)	(-0.12)
TRANSTIME	1.00***	0.96***	0.20***	0.19***	-0.64***	3.59	0.08***	0.08***
	(8.43)	(8.05)	(7.19)	(7.07)	(-2.85)	(1.32)	(3.32)	(3.25)
fixed c. effects	no	no	yes	yes	no	no	yes	yes
fixed p. effects	no	no	no	no	no	no	no	no
periods incl.	17	17	17	17	17	17	17	17
cross sec. incl.	25	25	25	25	25	25	25	25
observations	425	425	425	425	373	373	373	373
R-squared	0.97	0.97	0.98	0.98	0.96	0.96	0.98	0.98
Adj.*R*-squared	0.97	0.97	0.97	0.97	0.96	0.96	0.98	0.98
F-statistic	3381.22	3200.22	571.64	564.99	2496.55	2467.46	549.52	546.89
FH: Freedom House; *POL*: Polity; *RT*: Realtime; *TT*: Transtime								
*p <0.1; **p <0.05; ***p <0.01; *t*-values in paranthesis								

Table 6: Democracy indices and liberalization

As far as we have a significant influence of a democracy index on the liberalization index we can use this relation for measuring an indirect impact of democracy on growth via liberalization. This is true, however, only for the *Freedom House* index and only in real time. The idea is illustrated in figure 2. Whereas past democracy impacts liberalization and, in turn, liberalization impacts future growth, democracy also impacts growth more directly.

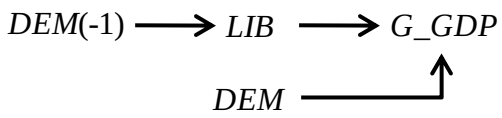

Figure 2: Direct and indirect effects of democracy

I this sense I have instrumented the economic liberalization index by the lagged *Freedom House* indicator in a two-step estimation and added the non-lagged *Freedom House* indicator in the second-step estimation as well. A welcomed side effect of this estimation strategy is that it accounts for the objection raised by *Heybey* and *Murrell* (1999) against simple

regressions of liberalization on growth. In their view the results will be biased because economic liberalization tends to be facilitated by an environment of higher growth rates, so that there are repercussions from growth to liberalization. In such a case, the error term will be correlated with a right-hand variable, in our case the liberalization index. When we now instrument the liberalization index by the lagged democracy index, this correlation can, in principle, be eliminated. Admittedly, however, this is only true as long as the lagged democracy index itself is not correlated with the error term. So the strategy applied here clearly presupposes that the non-lagged democracy index does influence growth but neither does the lagged indicator. The results of the two-step regression are presented in table 7.

Democracy significantly raises the degree of economic liberalization, but again by only 0.06 points, and economic liberalization, in turn, raises growth by 2.96 percentage points. Hence a rise in the past democracy index by one point would indirectly raise future growth by 0.18 percentage point via its impact on liberalization. Additionally, we would have the direct effect of the non lagged democracy index on growth which is again hump shaped with the same coefficients as in table 5, namely 2.15 for the linear and -0.23 for the squared *Freedom House* index. Adding the 0.18 points from the indirect effect to the linear democracy index leads to 2.33 for the linear *Freedom House* index which leaves the hump shape in figure 1 by and large as it is.

Taken together, we find a hump-shaped influence of democratization on growth in the formerly socialist countries from 1989 to 2007. Additionally, we find a small influence of the *Freedom House* indicator on economic liberalization, but only in the real time data set. For the *Polity* index and in the case of the transition time data set, there can no such influence to be found. As far as there is a significant influence of democracy on liberalization, we can speak of an indirect and positive, albeit tiny impact of democracy on growth via liberalization on top of the hump shaped direct influence (where direct only means that we have no specified channels through which democracy should work itself to economic growth). All in

all, we can hardly speak of democratization as a major driving force behind economic reform. It seems rather plausible that reform capability rests on a broader variety of institutional properties, some of which may well be supported by democratic structures. However, in reality there are clearly examples of non-democracies which successfully pursue economic liberalization as well. Albeit not part of the panel of this paper, China may be an illustrative example.

	1st step	2nd step
dependend variable	*LIB*	*DEM_FH*
time	*RT*	*RT*
estimation	*AR*(1)	*AR*(1)
DEM_FH		2.14*
		(1.74)
DEM_FH^2		-0.23**
		(-2.11)
DEM_FH(-1)	0.06**	
	(2.27)	
LIB		2.96***
		(4.81)
GDP_PC		-0.00***
		(-4.74)
GOV		-0.25**
		(-2.02)
INV		-0.11**
		(-2.02)
TRANSTIME		0.89***
		(3.65)
fixed c. effects	yes	yes
fixed p. effects	no	no
periods incl.	17	17
cross sec. incl.	25	25
observations	425	405
R-squared	0.97	0.68
Adj.*R*-squared	0.97	0.65
F-statistic	561.00	23.17
Instrument rank		39.00
FH: Freedom House; *POL*: Polity; *RT*: Realtime		
*p <0.1; **p <0.05; ***p <0.01; t-values in paranthesis		

Table 7: Two-step estimation of indirect effects

To a certain extent, this supports the reasoning by *Glaeser* et al. (2004) who argue that the usual indices for institutional structures – in our case those caught by the *EBRD*-liberalization index – are mere policy-choice variables which can be set in a certain way by autocratic or democratic leaders alike. Political freedoms would then be the result of, rather than a

precondition for, economic growth. I would not want to go that far since such a line of reasoning does not answer questions as to the incentives of different types of governments to liberalize their economy or not. At the same time, however, the available democracy indicators for democracy may still be too rough in order to be able to reflect the incentive structures as they are incorporated in a certain political system. Still, we can say that democracy as such has by far not been a sufficient condition for prosperity in the formerly socialist countries.

6. Conclusions

In this paper, I have empirically investigated the relation between the degree of democratization, as measured by the most prominent democracy indicators, on the one hand and economic performance on the other hand in a set of 25 formerly socialist transition countries. Furthermore, I have explored the relation between democracy and economic liberalization in these countries as well. The results appear to be somehow disillusioning, at least at first glance. If any, only moderate democracy levels had a significant and positive effect on growth in per capita *GDP* whereas further democratization on top of very moderate levels even tended to reduce growth. This result matches the findings by *Barro* (1996) from a world-wide panel according to which the influence of democracy on growth is hump shaped. Since I controlled for per capita *GDP*, the result cannot be due to the lower initial income level of the non democracies. It thus requires a different explanation, most probably based on interacting institutional determinants.

A further result of the paper is that the strong correlation between democratization and economic liberalization may give rise to a misleading impression of the true impact of democratization on reform capability. All coefficients are remarkably low in a regression which controls for per capita *GDP*, transition time, and fixed country effects. If any, even a

switch from pure dictatorship to a full-fledged democracy would raise the economic liberalization indicator by just 0.6 points.

For a proponent of democracy, these results may seem disappointing. However, a markedly cautious interpretation seems recommended to whoever may find them to be useful as ammunition against political correctness. Institutional variables interact in a rather complex manner. In particular, political freedoms like those captured by democracy indicators may structure the framework within which economic activities take place in various ways when combined with differing institutional characteristics. It may well be the case that some of the evolving institutional structures may support marketization and prosperity while, at the same time, the citizens remain deprived of even basic political rights; and this may even work over a longer period of time. However, the results of this paper did not pursue to clarify whether such political structures can be sustainable or would, at a certain point in time, quit functioning unless being underpinned by political freedoms. Neither do the results tell anything about the role of additional institutional properties for prosperity within a period of marketization, such as the rule of law, the independence of courts, or the control of corruption.

What the results of this paper do indeed tell, however, is that democratization alone, as defined in the somewhat narrow sense of our indicators, cannot be viewed as a major driving force behind economic liberalization and prosperity in the formerly socialist countries. Put in a different way, democracy was obviously less of an economic input into the economic reform process but more of an input into the construction of a framework for personal and political freedom which can now be enjoyed by the citizens in those countries which embarked on a thorough democratization process – no more but by far no less than that.

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