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Political Determinants of Economic Reforms in the Post-Communist Transition Countries*

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ABSTRACT

This paper examines how political institutions and electoral outcomes have affected the economic reform process in the post-communist transition countries. Panel data estimations on annual data for 26 transition economies from 1992 to 2006 suggest that the institutional structure of the economy has been of importance, at least for the western-most transition countries. Democratisation and a relatively short exposure to communist rule have been conducive to economic reform, while the timing of elections and whether the government commands a majority in parliament appear to have been unimportant. Governments with right-wing ideology have implemented more market-economic reforms than governments with other ideologies. A high development level but also high inflation have proved conducive to reforms, while unemployment has had the opposite effect.

JEL codes: H11, P21, P26

Keywords: Economic reforms, political economy, political institutions, economic development

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1. Introduction

The fall of the Berlin Wall in 1989 signalled the beginning of a period of historical importance for the countries in Central and Eastern Europe and Central Asia, which had hitherto been under communist rule. The breakdown of communism in the early 1990s and the dissolution of the Soviet Union, Yugoslavia and Czechoslovakia meant that a large number of countries came in a position to reform their political and economic systems. Almost all transition countries adopted - at least notionally - pluralistic political systems, elections contested by multiple parties and accountable government. The countries also engaged in economic reforms meant to restructure the hitherto centrally-planned economies and introduce market-based allocation of resources. In other words, the countries entered a phase of “simultaneous transition” of their political and economic systems.

The economic reforms took different directions in different transition countries already at an early stage. The extent and the speed of reforms and the areas prioritised varied markedly across countries - in large part as a result of different choices made by the policymakers. The Central European and Baltic countries reformed their economies fast; their entry into the European Union in 2004 and 2007 confirmed their position as “mature” market economies. At the other end of the spectrum, several countries in Central Asia have undertaken few market reforms with the government retaining key roles in the economies. The rest of the transition countries are to be found between these extremes. The conflicts in the Caucasus and between the countries emanating from Yugoslavia held back economic reforms in many of these countries for several years. Economic reforms have also been piecemeal and subject to reversals in Russia, Ukraine and Belarus.

From an early stage the differing economic reform paths across the transition countries elicited attention from international organisations and academics alike (World Bank, 1996; de Melo *et al.*, 1996, 2001). Based on earlier work on the determinants of economic reforms in developed and developing countries, four main sets of explanatory factors can be identified (Haggard & Webb, 1993): a) the economic starting point, b) the ongoing economic performance, c) the political and cultural starting point, and d) the political structures and processes.

The prevailing economic structures and development level sets the boundaries for the economic reform policies; the set of possible and reasonable reforms are likely to differ dependent on the income level and the degree of state-control at the outset of reforms. The economic performance during the process of economic transformation will similarly delimit the space of reforms. The political starting point and ongoing political processes exert both direct and indirect influences on the economic reform policies. We will discuss some of the theories explaining or rationalising the links from economic and political factors to economic reforms in Section 2. At this stage it suffices to underscore that many of the explanations of economic reforms are interrelated; the economic starting point may, for instance, affect the subsequent economic performance and possibly also the establishment of political structures.

This paper takes an in-depth view on a broad range of political factors determining the extent of market-economic reforms in the transition countries in Central and Eastern Europe and Central Asia. In specific, we use panel data estimation for 26 transition countries in order to explain the extent of economic reforms undertaken each year during the period 1992-2006. We include a number of political and electoral variables capturing different political economy theories of economic reform, while controlling for the economic development level and performance of the country.

Our paper contributes to the existing literature in several respects. First, we include a large number of political variables and are thus able to give a more detailed characterisation of the political factors and their interplay affecting economic reforms. Second, we explicitly tests for the importance of electoral cycles on economic reforms in post-communist countries, which to our knowledge has not been undertaken before. Third, we are explicitly considering causality issues. We model, for instance, the reforms undertaken in a calendar year (and not the level accumulated over a longer period). We also seek to address possible endogeneity issues using GMM estimation methods for robustness checks. Fourth, the sample period is from 1992 to 2006 and includes essentially the entire transition period. The relatively long sample allows us to divide the sample across different dimensions so as to examine the possible interaction of different factors.

A number of interesting results emerge from our study concerning the importance of political factors on the economic reform process. First, we confirm the finding in other studies that democratisation has been conducive for economic reforms in the transition countries. Second,

the timing of both scheduled and midterm elections does not appear to have played a role for the economic reform process, i.e. political cycles in the economic reforms are absent in the transition countries. Third, governments dominated by right-wing governments have generally pursue more market-economic reforms than left-leaning governments. Fourth, whether or not the ruling government commands a majority in parliament appears unimportant. Finally, the longer a country has been exposed to communist rule (relative to the length of the post-communist period) reduces the intensity of economic reforms.

A number of the economic control variables have straightforward interpretations. For instance, when the institutional and structural structure approaches best practice in western market-based economies, the reform intensity slows down. The richer or more economically developed countries have undertaken more reforms than less developed countries. Economic growth appears not to have had any effect on economic reforms, while unemployment has slowed reforms and inflation has led to an acceleration of reforms.

The results summarised above apply to the full sample and are reasonably robust to the choice of estimation method. The findings are, however, most pronounced for the early part of the estimation period, i.e. in the early stages of the reform process when the variables exhibit most variability. Also, the results differ to some extent between the group of CIS countries and the other transition countries closer to Western Europe, suggesting somewhat different political economy mechanisms in the two regions.

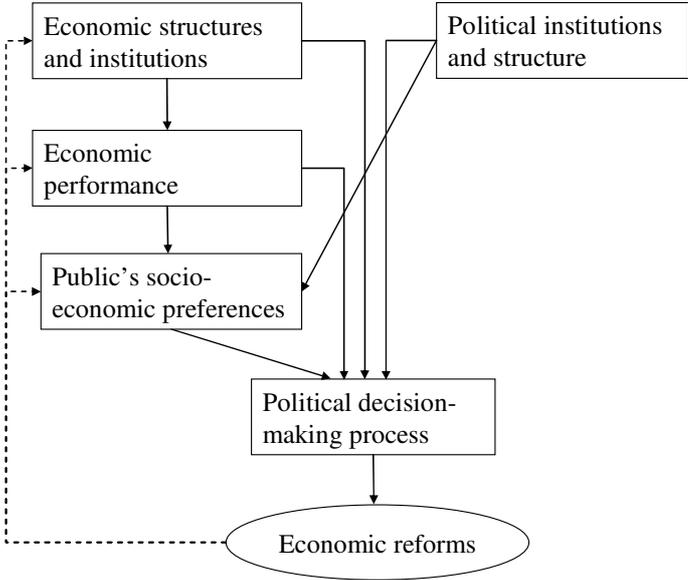
The rest of the paper is organised as follows: Section 2 discusses some theoretical and empirical analyses of the political economy of economic reform with particular emphasis on the transition countries. Section 3 explains our research design, data and data sources. Section 4 presents the findings of the empirical analyses, including results based on sub-samples of the dataset. Finally, section 5 concludes the study and bring ups some unresolved issues.

2. The political economy of economic reform

This section provides a brief discussion of the political and economic factors influencing the policymaking in the realm of economic reforms. Economic reforms in the context of the post-

communist transition countries are usually thought of as the wide-ranging changes which can be made to the existing economic regulatory, institutional and structural organisation of the economy. Figure 1 is a diagrammatic exposition showing some of the factors affecting economic reforms. To avoid cluttering of the figure, a number of other possibly important factors such as external economic and political developments are left out. Moreover, only parts of the complex interactions between different factors are indicated.

Figure 1: Factors affect the implementation of economic reforms



Source: Own composition

Starting from the bottom of Figure 1, the economic reforms are presumed to result from the political decision-making process. The composition of parliament, the government’s ideological orientation and the everyday political wheeling and dealing are among the factors encompassing the political decision-making process. It is, in principle, important to distinguish between the reforms *decided* by the political decision-makers and the reforms actually *implemented*. Lack of implementation capacity, time-lags from decision-making to implementation, corruption and various bureaucratic obstacles might lead to a discrepancy between the reforms decided by the policymakers and the reforms implemented.

It is reasonable to assume that the specific policy-making in the areas of regulatory, institutional and structural reforms results from the at least four factors agglomerating in the political process. First, the *existing* economic structures and institutions set the frame for economic reforms. Second, the economic performance may affect the “need” for reforms, but also the assessment of costs and benefits of reforms. Third, given the economic structure and performance, the population in different countries might have different preferences concerning market economic reform. The preferences may reflect societal and personal values, the socio-economic characteristics of the population and the available information. Fourth, political institutions such as the electoral system will influence the political decision-making process. The dashed line indicates that economic reforms will affect the country’s economic structure and institutions, the economic performance and possibly also the preferences of the public. This feedback loop may evolve over a period of time.

Figure 1 also highlights two (related) issues, which raise crucial challenges in econometric analyses of the political economy of economic reforms. First, there is a possible interdependence (correlation) between several of the factors affecting economic reform which may lead to multicollinearity problems, encumbering the identification of the separate effect of each factor. For instance, the economic structures and institutions delimit the reforms to be undertaken but also affect the current economic performance which again affect economic reforms. Second, the mutual dependence between the explanatory variables may give rise to interaction effects. For instance, the level of democratic governance may affect how the public’s preferences concerning economic reform affect the actual policy-making.

We will now turn to a brief review of the theoretical and empirical findings concerning a number of the factors affecting economic reforms. The main focus will be on empirical findings for post-communist transition economies. It is, however, outside the scope of this paper to provide a comprehensive survey of the voluminous literature in political science, economics and sociology seeking to explain economic reforms. Haggard & Kaufman (1992) and Haggard & Webb (1993) provide overviews of and lessons from the literature mainly in the context of structural reforms in developing countries; Roland (2002) provides an overview of the literature with particular emphasis on the post-communist transition countries.

As would be expected, the literature on the political economy of economic reforms is both theoretical and empirical. It can furthermore be divided into normative prescriptions and posi-

tive analyses (Roland 2002). The normative literature was particularly plentiful in the beginning of the 1990s as the early reforms were implemented, and international organisations, local policy-makers and academics were searching for points of orientation in the transition process. The normative literature has mainly focused on the political conditions for gaining and sustaining public support for economic reforms. Topics such as gradualism versus big-bang reforms and sequencing of reforms have featured prominently in this literature (Roland, 2002; Dewatripont & Roland, 1992; Kolodko 1999).

The empirical literature focusing on political economy of reforms in the transition countries gained momentum with the publication of World Bank (1996) and the accompanying analytical paper (de Melo *et al.*, 1996; later published as de Melo *et al.*, 2001). Subsequently a large body of papers have examined the importance of various factors on the extent of economic reforms. Haggard & Webb (1993) point out four main sets of explanatory factors: a) the economic starting point, b) the ongoing economic performance, c) the political and value-related starting point, and d) the political structures and processes.

It is commonly found that an advantageous starting point at the beginning of the transition process has been conducive for economic reforms. Countries with higher income per capita and a less distorted economic structure have implemented more economic reforms than less advantaged countries (Roland, 2002; de Melo *et al.* 2001; Staehr, 2006). The economic performance seems to affect economic policy-making in subtle patterns: Inflation is generally found to speed up economic reforms, while unemployment is frequently found to have the same effect although the empirical evidence is heterogeneous in the latter case. Taking the results at face value, the lesson might be that economic crises exhibited by high inflation and unemployment have made clear the need for change and thus been catalysts for economic reforms. The values and political norms varied markedly across the transition countries. It has been pointed out that the western-most transition countries traditionally have shared political and cultural values with Western Europe and that this has facilitated the adoption of Western economic structures and institutions (Roland, 2002). Finally, the political structures and processes have been of major importance. Fidrmuc (2003) and Staehr (2006) show that democratisation has been an important factor behind economic reforms and that this is a causal linkage from democratisation to economic reforms. This may simply reflect that the electorate has had a wish for economic change and that democratic institutions have meant that the popular support for reforms was carried into the policy-making process (Hellman, 1998; Roland, 2002).

A range of variables reflecting the specificities of the policymaking process are frequently found to be of importance.

An important result from the empirical literature is that the political determinants of economic reforms vary markedly between the region of post-communist transition countries and other regions such as Latin American and Africa (Wayland 2002). This underscores the rationale of undertaking empirical analyses on the East European transition countries separately and not pooling them with countries in other regions.

3. Research Design

The empirical investigation seeks to explain the extent of market-economic reforms undertaken by a country for any given year in the sample 1993-2006. This section discusses the choice of dependent variable(s) and explanatory political and economic variables.

3.1. Dependent variables

The European Bank of Reconstruction and Development (EBRD) publishes for all post-communist transition countries indices of market-economic conformity covering different economic policy areas. The indices start in 1992 or earlier. The eight main indices indicate the progress of economic policy in the fields of price liberalisation, trade and foreign trade liberalisation, small scale and large scale privatisation, enterprise governance, competition and financial sector restructuring. All eight indices take values between 1 and 4.33. A value of 1 denotes the level in tightly a state-controlled economy, while 4.33 denotes the “best practice” in western market economies. Thus, a higher index implies a higher degree of market-conformity. The indices reflect the EBRD’s estimation of both extensiveness and effectiveness of policy measures. For a detailed description on the methodology of the construction of the economic reform indices, see EBRD (2008).¹

In most estimations in this paper a simple average of the eight indices, labelled EBRD, will be used to represent the *overall* level of market-economic conformity. The variable Δ EBRD then denotes the year-to-year change in the overall index of market-economic conformity. A posi-

¹ The indices can be downloaded from <http://www.ebrd.com/country/sector/econo/stats/index.htm>.

tive value of $\Delta EBRD$ denotes economic reforms bringing the country in greater conformity with the best practice in market economies. Most of our empirical analyses seek to explain the extent of market-economic reforms, $\Delta EBRD$. Notice that for the countries in the sample which started the reform process from a state of heavily state-control (i.e. with market conformity EBRD equal to 1), the variable of market-economic conformity EBRD at any given time is the accumulated reforms.

Some estimations are undertaken using separate indices for various subcomponents of the EBRD index. In specific, one variable depicts the degree to which the practices of price setting and trade conform to market-economic standards; changes in this variable denote liberalisation of prices and trade. One variable quantifies the degree of private ownership of small and large enterprises; changes in this variable are synonymous with privatisation. Finally, one variable captures the structure of the enterprise and financial sectors; changes in this variables measure the degree of enterprise and financial restructuring.

It should be noticed that the variable of market-economic conformity, EBRD, as well as its subcomponents are bounded from below at 1 and from above 4.33. Reforms may, *ceteris paribus*, be “easier” to carry out when the level of market conformity is low and more difficult when the level of market conformity is high and the economy already conforms to market-economic principles in most respects. Following this argument, we include the one-year lagged market-conformity variable as a control variable with the estimated coefficient expected to attain a negative sign.

3.2. Independent variables

Our independent variables include political and economic variables. Among political variables, we capture the effects of elections using three different variables namely, scheduled elections, mid-term elections and electoral cycle. The main reason for this division between scheduled and mid-term elections is that the exact timing of the midterm elections is sudden and unanticipated. Since the mid-term elections are unexpected to scheduled elections which are clearly expected, we would like to test how both these elections separately affect the reforms process. The scheduled elections variable is a dummy coded 1 for the years in which there was scheduled elections and 0 otherwise. It is noteworthy that we do not capture mid-term election years here. The mid-term elections variable is also a dummy variable coded 1 if

there are mid-term elections in a given year and 0 otherwise. With respect to electoral cycle we code the variable as 1 if t is one year before a scheduled election year; 2 if t is two years before a scheduled election year; 3 if t is three years before a scheduled election year and 4 if t is four years before a scheduled election year in the respective country. On the scheduled election year, we code this variable as 0. This variable allow measuring how the temporal distance from a scheduled election year affects economic reforms process vis-à-vis an election year. Alternatively we also make use of another kind of electoral cycle to capture the same effect as a part of robustness check. This includes creating four separate dummy variables namely: 4-years before scheduled elections variables which take the value of 1 in the fourth year before every scheduled election year and 0 otherwise. The second dummy includes 3 years before scheduled elections variable which takes the value of 1 in the third year before every scheduled election year and 0 otherwise. The third dummy variable is 2-years before elections variable include the value of 1 in the second year before every scheduled election year and 0 otherwise. Finally, 1-year before elections variable takes the value of 1 in the 1st year before every schedule election year and 0 otherwise.

We also capture the effects of democracy on reforms by including the Polity IV regime type data constructed by Marshall & Jaggers (2002). We then follow Londregan & Poole (1996) by subtracting Polity IV's autocracy score from it democracy score, giving rise to the final democracy variable used in this paper. The democracy variable ranges from -10 to +10, where -10 denotes a fully autocratic political system, +5 a partially democratic system, where +10 is highest possible score denoting the ideal democratic system.

The economic reforms process may be facilitated if the ruling government controls the legislature (Biglaiser & Brown, 2005; Ross, 2006). We capture this effect using the majority margin indicator in the Database of Political Institutions, cf. Beck *et al.* (2001). The majority margin is computed as the share of seats in parliament commanded by the ruling government. In some cases a score of 1 is given, which indicates that the government has full majority in parliament or that the country is a single party state.

The ideology of the ruling government may also influence the economic reform agenda. We have three sets of groups' viz., the right wings; left wings and centrists. Historically, the left wing parties like Communist Party have strong trade and industrial union associations. To control for ruling party ideology preference, we include a measure of ruling party ideology

that categorises whether the ruling party government is a left or right or centrists. For this purpose we formulate three different variables namely, left wing dummy; right wing dummy and centrists dummy, which takes the value as 1 if the ruling party fall under any of the category and 0 otherwise respectively. The data is obtained from Database of Political Institutions, cf. Beck *et al.* (2001).

Empirical studies have found significant negative impact of conflict on short term economic growth and development (Collier, 1998). Conflicts affect growth and development process in many ways. It leads to diversion of productive resources for unproductive purposes where the returns on such investments are nothing but nil (Grossman & Kim, 1996). In an already crippled state, conflicts increases the military spending which in turn crowds-out private and foreign investments creating huge negative fiscal impact and hamper the prospects of socio-economic development (Deger & Sen, 1983; Klein, 2004). Under these circumstances conflicts are expected to exert negative association on economic reforms.

We also include a variable capturing the exposure of policymakers and voters to communism. We follow Chousa *et al.* (2005) and define the variable as the number of years under communism over the number of years after the break-down of communism. A high value of the variable results from the country having spent long time under communist rule or only few years having elapsed since the end of communist rule in the country. A high value may thus reflect a lack of familiarity with democratic governance structures and market-economic principles. As such, the variable may also be interpreted as a measure of political “initial conditions” at any given year of the transition process.

Among economic variables, we include the logarithm of GDP per capita to capture the effect of the economic development level on economic reforms. It may be expected that high income transition countries will undertake more economic reforms, since these countries have better availability of administrative resources and the possibility to offset possible social and economic costs associated with reforms (Manzetti, 1999). Data for GDP per capita is taken from the World Development Indicators produced by the World Bank (WDI, 2007).

We also include three variables reflecting the current economic performance, namely the rate of GDP growth, the unemployment rate and a measure of the inflation rate. These variables may affect the “need” for economic reforms, the possibility space for reforms and the accep-

tance of reforms in the public. The data for economic growth and unemployment is obtained from EBRD's dataset of macroeconomic indicators. The inflation rate was extremely high in many transition economies during the early transition years. The consumer price inflation exhibits extremely large values as well as negative values in our sample, and we therefore use an inflation measure computed as $\log(100 + \text{inflation rate})$. The data is obtained from the World Development Indicators (WDI, 2007).

4. Empirical results and discussion

The database comprises a fully balanced sample covering 26 transition economies for the period 1992-2006. The countries in the sample are heterogeneous as they vary in size, political climate and the level of socioeconomic development. In order to address with possible country-specific unobserved heterogeneity we employ a two way random-effects specification (Hsiao, 1986). The pooled time-series cross-sectional data may exhibit heteroskedasticity and serial-correlation problems, although these do not bias the estimated coefficients as pooled regression analysis in itself is a more robust method for large sample consisting of cross section and time series data. However, they often tend to cause biased standard errors for coefficients, producing invalid statistical inferences. To deal with these problems, Beck & Katz (1995) propose to retain POLS parameter estimates but replace the POLS standard errors with panel-corrected standard errors (PCSE). They find that these estimates of sampling variability are very accurate, even in the presence of complicated panel error structures. Following others, most of the analyses in this paper employ POLS two-way random effects regression with PCSE Cross-section weights.

4.1. Full sample

We begin the empirical analysis employing data for the entire sample of 26 transition economies for the period 1992-2006. The results of regression analyses seeking to explain the extent of economic reforms, ΔEBRD , are presented in Table 1 (models 1-8). The regression results do not bear out any effect of elections and electoral cycles on economic reforms in the context of the post-communist transition economies. Specifically, the results in model 1 show that national elections (including scheduled and mid-term) has no statistically significant ef-

fect on the extent of economic reforms even in the absence of other explanatory variables than the lagged level of market-economic conformity, $EBRD(-1)$. Moving further, in model 2 we divide the total elections into scheduled and mid-term elections, but the coefficients to both variables are statistically insignificant. In model 3 along with scheduled and mid-term elections, we also include the respective electoral cycles. As can be seen, neither the electoral cycles nor the elections dummies are statistically significant. We confirm our findings by replacing both the electoral cycles' variables in model 4 with the distance from scheduled elections dummies. We still could not find any variable to be significant except one year before the scheduled elections which is positively significant.

One interesting finding in all these four models is that effect of the lagged level of market-economic conformity. We not only find a negative association with the economic reform variable, but the effect is also consistently significant at the 1% confidence level. This inverse relationship suggests the case for convergence. This is arguably not surprising given the construction of the index of market-conformity; the countries which have already obtained a high degree of market conformity have relatively limited potential to pursue further economic reforms. This may in particular be valid in the case of some of the transition countries from Central and East Europe which started the process of reforms early, while the upper constraint might be less binding for many of the CIS countries where the economies are still largely state-controlled. We return to this discussion in Subsection 4.2.

Table 1: Political determinants of economic reforms equation function

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	RE	RE	RE	RE	RE	RE	RE	GMM-SYS
Dependent Variable:	Δ EBRD	Δ EBRD	Δ EBRD	Δ EBRD	Δ EBRD	Δ EBRD	Δ EBRD	Δ EBRD
Constant	0.176*** (0.0282)	0.1896*** (0.0236)	0.2014*** (0.0293)	0.1296*** (0.0279)	0.2326*** (0.0335)	-0.1627* (0.0961)	-0.166* (0.0945)	-0.1736** (0.083)
EBRD (t-1)	-0.0321*** (0.0091)	-0.0382*** (0.0092)	-0.04*** (0.0092)	-0.0258*** (0.0091)	-0.0384** (0.0159)	-0.0322* (0.0186)	-0.0303 (0.0184)	-0.0271* (0.0157)
National election	-0.0005 (0.0070)	..	..	..	..	..	0.0073 (0.0153)	..
Scheduled election	..	-0.0029 (0.0152)	-0.0116 (0.0194)	0.0267 (0.0206)	0.0022 (0.0174)	0.0067 (0.0171)	..	0.0079 (0.0154)
Scheduled elections cycle	..	..	-0.0068 (0.0081)	..	-0.0013 (0.0075)	-0.0006 (0.0074)	..	0.0056 (0.0053)
1 year before scheduled election	..	..	..	0.0426** (0.0212)	..	..	..	..
2 years before scheduled election	..	..	..	0.0195 (0.0218)	..	..	..	..
3 years before scheduled election	..	..	..	0.0504** (0.0221)	..	..	..	..
4 years before scheduled election	..	..	..	0.0406 (0.028)	..	..	..	..
Mid-term election	..	0.02934 (0.0418)	0.0364 (0.0426)	..	0.0417 (0.7465)	0.0319 (0.0397)	..	..
Mid-term election cycle	..	..	0.0029 (0.0088)	..	0.0044 (0.008)	0.0066 (0.0079)	..	..
GDP growth (t-1)	..	..	..	..	..	-0.0005 (0.0009)	-0.0005 (0.0009)	-0.0006 (0.0008)
Log GDP per capita (t-1)	..	..	..	..	..	0.0274*** (0.0099)	0.027*** (0.0097)	0.0256*** (0.0083)
Democracy (t-1)	..	..	..	..	0.0071*** (0.0012)	0.006*** (0.0012)	0.006*** (0.0012)	0.005*** (0.0011)

Unemployment (t-1)	..	..	..	..	..	-0.0018** (0.0007)	-0.0018** (0.0007)	-0.0011 (0.0007)
Communist exposure (t-1)	..	..	..	..	-0.4157*** 0.1095	-0.3961*** (0.1019)	-0.3978*** (0.1014)	-0.4064*** (0.0933)
Log (100 + inflation (t-1))	..	..	..	..	..	0.0284** (0.0112)	0.0287** (0.0111)	0.0311*** (0.0096)
Minimum majority (t-1)	..	..	..	..	0.0041 (0.0226)	0.0302 (0.0242)	0.0304 (0.0240)	0.0256 (0.0202)
Adjusted R^2	0.0286	0.0414	0.0422	0.0264	0.1550	0.3007	0.2772	..
F-statistic	6.3358***	6.2258***	4.1987***	2.6375**	9.3255***	12.5773***	13.6557***	..
Total no. of observations	364	364	364	364	364	364	364	364
Number of countries	26	26	26	26	26	26	26	26
AR1	..	..	..	..	..	..	..	0.000
AR2	..	..	..	..	..	..	..	0.411
J-statistic	..	..	..	..	..	..	..	371.78**

In model 5, we control for traditional political determinants of economic reforms along with elections. We introduce variables namely, democracy, year of communist exposure and minimum majority which a government enjoys in the parliament in respective countries. Though we find positive sign for minimum majority variables, the coefficient did not attain statistical significance. We find a positive association of democracy with reforms. This result is consistent with Fidrmuc (2003) and Staehr (2006) who also find that democratisation led to market economic reforms. With respect to the measure of communist exposure we find a very strong negative effect on economic reforms. The coefficient to the variable is statistically significant at 1% confidence level and the findings are robust across the models. The interesting point noteworthy in model 5 is that despite the inclusion of the political variables, both scheduled and mid-term elections and their respective electoral cycles remain statistically insignificant.

In model 6, we also include other control variables which are largely related macroeconomic conditions. We find that increase in economic development (log GDP per capita) has a greater positive influence on change in reforms. Holding at its mean value, increase in log percapita GDP by its highest value (8.57%) would increase the change in economic reforms by 0.03% (see model 6, Table 1). However, we could not find any statistical significance for economic growth rate in any of our models. Consistent with the findings of Hayo (2004) on 14 transition economies, we also find that inflation is negatively associated with economic reforms. Along with the findings of Valev (2004), we find support for a negative impact of unemployment on economic reforms.

The coefficient to the degree of democracy remains statistically significant and so does the coefficient to relative length of exposure to communist rule. Despite introducing full array of political and economic variables, we could not find support for the argument that elections (whether scheduled or mid-term) have affected reforms positively or negatively. In model 7, keeping the economic and political variables unchanged from model 6, we replace both the scheduled and mid-term elections variables with a simple national elections dummy which is coded 1 if a country had elections (irrespective of scheduled or mid-term) in a particular year and 0 otherwise. We find that this variable remains statistically insignificant, while the results pertaining to the political and economic variables remain robust.

The coefficient estimates in these models may likely to be biased. First, the relationship between economic reforms and economic growth and development can probably be bidirectional. Meaning, if economic policy reforms cause good growth performance, then the reverse may also be true that good growth and development performance is also good for economic reforms. Second, there is also serious bidirectional causality between democracy and economic reforms. Applying same logic, if economic policy reforms lead to promotion of democracy, then the reverse may also be true that democracy may also act as a strong pillar is propagating economic reforms. A common statistical approach in dealing with causal and reverse causal bias is to use instrumental variables. It is always a matter of supposition whether the particular instrument variables selected would reduce biases or introduce new biases into the models. Also, instrument variable method under two stage least squares method can reduce the endogeneity bias but will not completely eliminate the problem. To tackle this we use GMM estimation of Arellano and Bover (1995) and Blundell and Bond (1998) than simple GMM of Arellano and Bond (1991), that exploits the stationarity restrictions and give more robust results. Moreover, Blundell and Bond (1998) show that the differenced GMM estimation has poor finite sample properties when the lagged levels of the series are weakly correlated with the subsequent first-differences. Therefore, the efficiency gains of using the system GMM over the may be higher. The validity of instruments that give a set of over-identifying restrictions has been verified with the standard Hansen test, which confirms that in all cases our set of instruments is valid. Furthermore, the AR(1) and AR(2) tests, that check the hypothesis of absence of serial correlation, are also presented. The standard errors of coefficients are robust to heteroskedasticity.

The results of GMM in model 8 show some interesting trends. First, our estimate of convergence variable (which is lagged value of economic reforms) is about one time higher than the one estimated by random effects specification in models 1 to 7. We observe that the random effects method gives an estimate of lagged reforms variable that is -0.038% and in some cases -0.04% higher than the one found in GMM estimations which is -0.027% (see model 8 in Table 1). Next, the random effects model representing economic development treats correctly the correlated individual effects but fails to account for potential endogeneity. The estimated coefficient value of economic development is now smaller in GMM than the one estimated by random affects method. For example, the effect of economic development was 0.027% in model 6 and 7. This came down to 0.025% in model 8 using GMM (see Table 1). Similar conclusions are drawn for democracy variable. The GMM estimate of democracy is 0.005%

compared to 0.006% in random effects (see models 6, 7 and 8). These results suggest that failing to account for endogeneity biases the coefficient values upwards and thereby exaggerating the claims of various key political and economic variables on reforms. The validity of the moment restrictions is checked by Hansen's test fail to reject the null hypothesis. In light of these results, the moment conditions underlying the GMM estimation are supported. At the same time, the fact that there is evidence of first order but not second order autocorrelation implies that the models are correctly specified in levels, as expected.

4.2. Sub-indices and sub-samples

To assess the robustness and generality of the results above, we conducted a number of auxiliary regressions. The results are shown in Table 2. The first exercise entails using three different sub-indices of the index of market conformity EBRD as described in Section 3 and then using changes in these indices as measures of reforms in different areas. The dependent variable in model 9 is the liberalisation of prices and trade in any given year, the dependent variable in model 10 is the small-scale and large-scale privatisation undertaken in any given years, while the dependent variable in model is the restructuring of enterprises and the financial sector in any given year. The results in all these three models show a strong sign of convergence with the lagged levels in all cases attaining negative and statistically significant coefficients. The interesting findings in all these three models (9, 10, 11) is that none of the elections variable (viz., scheduled, mid-term of their respective electoral cycles) are significant, thus confirming our earlier findings using the overall economic reforms as dependent variable. The results concerning the political and economic variables too remain largely unchanged from the models presented in Table 1. The coefficients to democracy and economic development are strongly positive and statistically significant, while the coefficients to communist exposure and unemployment are negative and significant.

Table 2: Different sub-specifications of economic reforms equation function

	Model 11	Model 9	Model 10	Model 12	Model 13	Model 14	Model 15
	RE	RE	RE	RE	RE	RE	RE
Dependent Variable:	Liberalisation reforms	Privatisation reforms	Structural reforms	ΔEBRD	ΔEBRD	ΔEBRD	ΔEBRD
Constant	0.2830 (0.1831)	-0.0613 (0.1599)	-0.4498*** (0.1173)	0.1177 (0.1642)	-0.1618 (0.2082)	-0.1780 (0.1527)	0.0353 (0.1957)
Scheduled election cycle	0.0028 (0.0114)	-0.0183 (0.0128)	-0.0061 (0.0102)	-0.0013 (0.0092)	0.0072 (0.0106)	0.0029 (0.0151)	-0.0025 (0.0038)
Scheduled election	0.0463* (0.0253)	-0.0124 (0.0282)	0.017 (0.0238)	-0.0018 (0.0244)	0.0139 (0.0216)	0.0097 (0.0305)	-0.0039 (0.0091)
Mid-term election cycle	0.017 (0.0124)	0.0130 (0.0137)	0.0216** (0.0109)	-0.0039 (0.0102)	0.0022 (0.0115)	0.0066 (0.015)	9.63E-05 (0.0044)
Mid-term Elections	0.0523 (0.0539)	0.0351 (0.0608)	0.0006 (0.0509)	0.1566** (0.0648)	-0.0576 (0.0444)	0.0301 (0.0608)	0.0335 (0.0245)
GDP growth (t-1)	-1.34E-05 (0.0015)	-1.79E-05 (0.0016)	-0.0004 (0.0012)	0.0013 (0.0011)	-0.0026 (0.0019)	2.50E-05 (0.0014)	-0.0021** (0.001)
Log GDP per capita (t-1)	-0.0174 (0.014)	0.0275* (0.0156)	0.0803*** (0.0143)	-0.0089 (0.0144)	0.0661*** (0.0212)	0.02712 (0.0166)	0.0145 (0.0114)
Democracy (t-1)	0.0093*** (0.0023)	0.0097*** (0.0019)	0.0062*** (0.0014)	0.0047*** (0.0017)	0.0028 (0.0025)	0.0072*** (0.0018)	0.0032* (0.0016)
Unemployment (t-1)	-0.0014 (0.001)	-0.0018 (0.0013)	-0.0035*** (0.0010)	-0.0025** (0.0012)	-0.002* (0.0011)	-0.0023* (0.0013)	-0.0004 (0.0009)
Communist exposure (t-1)	-0.1414 (0.1231)	-0.5739*** (0.1413)	-0.1337 (0.1468)	-0.5621** (0.2378)	-0.1882 (0.1278)	-0.2096 (0.2805)	-0.1101 (0.1065)
Log (100 + inflation (t-1))	0.0182 (0.0188)	0.047** (0.02)	0.0168 (0.0142)	0.0297** (0.0149)	0.0167 (0.0205)	0.031** (0.0153)	0.0063 (0.0381)
Minimum majority (t-1)	-0.0022 (0.04)	0.014 (0.0402)	0.0328 (0.0300)	0.0324 (0.0276)	-0.0735 (0.054)	0.0323 (0.0383)	-0.0091 (0.0221)
Price setting and trade (t-1)	-0.1231*** (0.0316)	..	..	..	..	..	..
Private ownership (t-1)	..	-0.0766*** (0.0233)	..	..	..	..	..

Enterprises and finance (t-1)	..	..	-0.115*** (0.026)	..	..	..	..
EBRD (t-1)	..	..	..	-0.0128 (0.027)	-0.1178*** (0.0288)	-0.0423 (0.0332)	-0.0382** (0.0186)
Adjusted R^2	0.1701	0.3078	0.1945	0.2160	0.4094	0.1595	0.0245
F-statistic	7.8572***	14.4525***	8.3038***	4.8341***	12.2624***	4.2733***	1.3244***
Total No. of Observations	364	364	364	168	196	208	156
Number of countries	26	26	26	CIS	Non-CIS	26 (93-00)	26 (00-06)

Second, we split the sample into two parts. The first set includes the CIS countries (plus Mongolia) and the other set includes the rest of the transition countries. The dependent variable in this case would be change in economic reforms variable. The results are presented in model 12 and 13 (see Table 2). Again, these results conform our earlier findings with no effect of elections. We find that none of elections variables are significant with the exception of mid-term elections in the case of CIS countries.

Amongst the political variables, we find that the effect of democracy is statistically significant only in the CIS countries. This may partly be explained by the democracy variable exhibiting relatively more variability for the CIS countries than for the western transition countries which in most cases democratised very fast. The coefficient to the variable depicting the exposure to communist rule is negative and broadly of same magnitude in both cases, but it is only statistically in the regression covering the CIS countries.

One interesting finding noteworthy is the effect of lagged economic reforms variable. We now return to the discussion on convergence in the reforms process. Earlier we highlighted that there is evidence of reforms convergence in these countries but cautioned that it may not be the case for all the countries in the sample. These arguments are supported by the results of models 12 and 13 in Table 2. We find that lagged reforms variable is statistically insignificant in the case of the CIS countries, possibly reflecting that the majority of the CIS countries have undertaken only limited economic reforms. Countries like Tajikistan and Turkmenistan in 2006 scored around 2 or less on EBRD index of market conformity. While, many non-CIS countries have moved up the ladder with significant reforms policy changes over the last two decades.

Finally, we also divided the sample by time period. We ran results for all the 26 countries for the period 1993-2000 and 2001-2006. The results with respect to elections remain statistically insignificant in both the models (see models 14 and 15). The coefficients to the lagged reforms variable are negative and of broadly the same magnitude in the two periods, although it is only statistically significant during the later period (2001-2006). The economic variables lose both statistical and economic significance in the later period, possibly reflecting the less volatile economic developments in this period. The level of democracy remains a significant determinant in the reforms process in both the periods.

5. Final comments

The study have considered the political determinants of economic reforms in the case of 26 transition countries during the period 1993-2006. We have used different econometric panel data techniques to explain the relationship between a range of explanatory factors and the extent of economic reforms at the given year. The bulk of estimations are based a random-effects specification which seeks to take into account possible country specific unobserved heterogeneity; GMM estimations are used to take into account the potential endogeneity of the explanatory variables.

Using cross-sectional time series data on elections and EBRD's economic reforms index, it is demonstrated that economic reforms process responds to a range of political and macroeconomic factors. Prominent among them include: democracy, economic development, length of exposure to communist rule, governments with right-wing ideology, inflation and unemployment. While there is a strong relationship between the aforementioned variables, we could not find any statistical significant results in the case of elections, either scheduled or mid-term. Similarly, whether the government has commanded a majority of seats in parliament seems unimportant. The reform process seems to exhibit convergence although this feature is most prominent for the group of CIS countries, possibly because the economic reform process has been much more rapid in the Western transition countries than in the CIS countries.

When we employed sub-indices of economic reforms separately (liberalisation, privatisation and structural reforms), most of the results from the overall reform estimations remained valid. When we divided the sample of countries into CIS and non-CIS countries, it emerged that there were differences in the relative importance of different factors. We also divided the sample years into early reforms years (1993-2000) and late reforms years (2000-2006). The results mostly remain unchanged amongst all the models.

The paper leaves some issues unresolved. We have sought to address possible the possible correlation between different explanatory factors by sub-dividing the sample into different sub-samples. Still, more work needs to be done to understand more fully the interrelationships between different explanatory factors. One important objective would be to distinguish more clearly between the effects of initial political and economic conditions and the effects of the

on-going political and economic developments. This may entail the use of interaction terms, factorisation of the explanatory variable or estimation of systems explaining several variables simultaneously. The conceptual and econometric challenges of such analyses are sizable but would enlarge our understand of the unique historical experiment of simultaneous political and economic in almost 30 countries.

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Annexes

Annex 1: Transition economies under study

Countries grouped as CIS countries						
Armenia	Azerbaijan	Belarus	Georgia	Kazakhstan	Kyrgyz Republic	Moldova
Mongolia	Russia	Tajikistan	Turkmenistan	Ukraine	Uzbekistan	
Countries grouped as non-CIS countries						
Albania	Bulgaria	Croatia	Czech Republic	Estonia	Hungary	Latvia
Lithuania	Macedonia	Poland	Romania	Slovakia	Slovenia	

Annex 2: Data Sources

Variable	Data Source
Economic Growth Rate	World Development Indicators (2007), World Bank
Economic Development	World Development Indicators (2007), World Bank
Democracy	POLITY IV (Marshall & Jaggers 2002)
Unemployment	EBRD database (2008)
Communist exposure	Authors' own construction (see text)
Inflation	World Development Indicators (2007), World Bank
Minimum majority	DPI (2007)
Elections variables	Authors' own construction based on DPI (2007)
EBRD	EBRD database (2008)

Annex 3: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Standard deviation	No. of countries
Scheduled election cycle	1.89	2	4	0	1.01	26
Midterm election cycle	1.92	2	4	0	1	26
1 Year before elections	0.2	0	1	0	0.4	26
2 Years before elections	0.19	0	1	0	0.39	26
3 Years before elections	0.18	0	1	0	0.38	26
4 Years before elections	0.07	0	1	0	0.25	26
Economic reform index	2.48	1	3.9	0.72	2.19	26
GDP growth	2.12	4.25	34.5	-44.9	9.02	26
Log GDP per capita	8.57	8.77	10.07	6.78	0.82	26
Democracy	3.82	7	10	-9	6.45	26
Unemployment rate	10.01	8.7	37.7	0.1	7.69	26
Communist exposure	0.2	0.19	0.44	0.05	0.09	26
Inflation	223.7	10.63	15606.5	-8.52	955.94	26

Annex 4: Correlation Matrix

	Scheduled elections	Mid-term elections	Mid-term election cycle	Scheduled election cycle	GDP growth	Log GDP per capita
Scheduled elections	1.000					
Mid-term elections	-0.034	1.000				
Mid-term election cycle	-0.483	0.102	1.000			
Scheduled election cycle	-0.307	0.106	0.683	1.000		
GDP growth rate	-0.050	-0.016	0.066	0.016	1.000	
Log GDP per capita	0.047	0.011	-0.073	-0.060	0.187	1.000
Log (100 + inflation)	-0.049	-0.029	-0.027	-0.015	-0.355	-0.166
Democracy	0.058	0.007	-0.083	-0.105	-0.004	0.501
Unemployment	0.003	0.045	-0.077	-0.121	0.115	0.258
Communist exposure	0.038	-0.017	-0.005	-0.031	0.506	0.488
Majority margin	-0.032	0.046	-0.027	-0.066	0.073	-0.028
ERBD (t-1)	0.097	0.007	-0.033	-0.019	0.180	0.617
	Log (100 + inflation)	Democracy	Unemployment	Communist exposure	Majority margin	EBRD (t-1)
Log (100 + inflation)	1.000					
Democracy	-0.075	1.000				
Unemployment	-0.103	0.156	1.000			
Initial conditions	-0.286	0.351	0.103	1.000		
Majority margin	0.009	-0.002	0.313	0.017	1.000	
Reforms (t-1)	-0.253	0.565	0.055	0.632	-0.041	1.000