Zentrum für Europäische Integrationsforschung
Center for European Integration Studies
Rheinische Friedrich-Wilhelms-Universität Bonn

Working Paper

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Liberalization, Democracy and Economic Performance during Transition

B 05
2000

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January 2000

Abstract

This paper analyzes the inter-relations between economic and political processes during transition in 25 post-communist countries of Central and Eastern Europe and the former Soviet Union. The main findings are the following: First, economic liberalization generally has positive effect on growth even when controlling for initial conditions. The effect is U-shaped during the contraction and linear during the recovery, but in both periods complete liberalization is superior to no liberalization. Second, democracy has a negative effect on growth during the contraction, whereas its effect appears insignificant during the recovery. Third, economic performance is a strong determinant of support for the reform in elections: support for the reform falls with unemployment and increases with economic growth, output level relative to 1989, and, surprisingly, inflation. Finally, economic liberalization per se increases opposition against the reform, as the costs of the reform apparently go beyond deteriorating economic performance. The level of democracy, in contrast, increases the support for the reform.

Keywords: Democracy, Economic Liberalization, Economic Performance, Voting.

JEL codes: O11, P26, P27

[*] A previous version of this paper was entitled "Economic Performance and Political Liberalization during Post-communist Transitions." I benefited from comments and suggestions from Jürgen von Hagen, Philipp Harms and Arye Hillman, as well as participants of the EMMA meeting at CentER, the 9th Silvaplana Workshop on Political Economy, ZEI Research Breakfast, and a seminar at SITE. This research was initiated while I was affiliated with the CentER for Economic Research at Tilburg University, whose hospitality and stimulating research environment I gratefully acknowledge.

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1 Introduction

In Fall 1989, Mikhail Gorbachev renounced the Brezhnev doctrine and replaced it with what later became known as the Sinatra doctrine (“My Way”). Soon thereafter, several dramatic changes took place in the countries of Central and Eastern Europe. The Berlin Wall came down and borders opened up. Romania’s *beloved leader* Nicolae Ceausescu was gunned down by his rebellious subjects. The playwright Václav Havel and electrician Lech Walesa became the presidents of their countries. Throughout the region, communist regimes were toppled by massive protests or armed struggle. Free and democratic elections ensued and sealed the change. After more than forty years, the pendulum of history finally swung back. Soon it appeared that the political transition was essentially over, and the only questions left to be answered were those relating to stabilization, economic reform, and the optimal path to prosperity.

However, the news about the demise of communism proved to be vastly exaggerated. The reform turned out more costly and painful than expected, and public support for belt tightening soon dissipated. Disillusioned voters became easy prey for nationalism and populism. Throughout the region, the former communist parties rose from their graves and returned to power. Symbolically, Poland now has a communist president once again. The pendulum of history swung back, showing how intensely politics and economics have become intertwined in the post-communist countries. The continuation of reforms and the very sustainability of democracy came under threat from the political backlash brought about by adverse effects of the reforms.

The focus of this paper reflects three crucial questions relating to the design of economic reforms in the transition countries: First, was greater liberalization the key to less severe transition-induced decline and faster recovery, or was the gradual approach more successful? Second, what was the effect of political liberalization, alongside economic liberalization, on economic performance? And, finally, what are the political costs of the reform? To what extend is the political backlash against democratic and pro-reform parties a price the reformers pay for excessive adverse effects of the reform?

The first question received a great deal of attention, in the policy debate as well as in the academic literature. Many papers have been written discussing the vices and virtues of shock vs. gradualism, and the discussion is far from over (Lipton and Sachs, 1990, give an early exposition; Dewatripont and Roland, 1996, compile a survey of arguments). With the publication of the World Bank's World Development Report 1996 (the results of the background study were summarized also by de Melo et al, 1996), the originally mainly theoretical discussion gained an empirical dimension. De Melo et al. (1996) analyzed the patterns of economic performance in a cross section of transition countries and found a positive effect of economic liberalization on post-stabilization growth, and a negative effect on inflation. Subsequent studies soon followed, some confirming de Melo et al.'s finding, other disputing it (see section 3.1 for a more detailed discussion).

The second question, pondering the relationship between political liberalization and economic performance during transition, is mainly motivated by the experience of countries such as Chile, South Korea and Taiwan, which only introduced democracy after economic reform was successfully implemented (see Edwards, 1991). The argument for a *benevolent dictator* rests on the observation that actions of elected governments often are often motivated by the desire to enlist and sustain support from various constituencies (trade unions, farmers, specific industries) rather than sound economic rationale. In economic transition, when the traditional standing of many constituencies is being changed dramatically, the government will find itself under even greater pressure. Even more importantly, because of the predominantly adverse effects of economic liberalization in its early stages, the reform can be halted or reversed due to political backlash that it generates. Postponement of democracy until the reform starts delivering its positive effects may help bridge this period. The argument in favor of democracy, on the other hand, builds on the importance of guaranteeing the protection and enforcement of property rights. Accordingly, political and civil liberties are necessary in order to protect economic agents from predatory behavior by the government (see North, 1993). Unlike the role of economic liberalization, the effect of democracy on economic performance during transition is relatively little explored empirically. De Melo et a. (1996) and Dethier et al. (1999) point out the high degree of correlation between the measures of economic and political liberalization, and suggest that political liberalization facilitates economic reforms. Political liberalization, they argue, affects economic performance only indirectly, through its effect on economic liberalization. The direct effect of democracy alongside economic liberalization on economic performance during transition has not been addressed in the previous literature, however.[1]

Finally, political sustainability of economic reforms is a necessary condition for the

[1] Barro (1996), in contrast, studies the relationship between democracy and economic growth in a cross section of developed and developing countries.

successful completion of the reforms (see the discussion in Dewatripont and Roland, 1996). Not surprisingly, economic performance is a strong determinant of the political support for the reforms. Previous studies on this topic include Fidrmuc (2000a,b), who uses regional results of national elections to study economic determinants of voting preferences in the Czech Republic, Hungary, Poland and Slovakia; Hayo (1999), who uses the Eurobarometer surveys to explore the determinants of support for the creation of a market economy; and Brainerd (1999), whose analysis of the relationship between individual economic characteristics and voting behavior in Russia is based on household surveys.

The objective of this paper is to broaden our understanding of these three types of interactions between economics and politics in the post-communist countries in transition. The main results are the following: First, I find strong and positive relationship between economic liberalization and economic performance, even after controlling for initial conditions measured by the countries' distance from Western Europe, their initial GNP per capita, population growth, secondary school enrollment, and a dummy for military conflicts. The effect of liberalization is particularly strong during the later period of transition (recovery). Second, I find that democracy has a U-shaped effect on economic performance, at least during the early part of the transition (contraction). Thus, either no democracy or full democracy leads to better economic performance than moderate democracy. This result for transition countries stands in contrast to that found by Barro (1996) for a broad section of developed and developing countries—his findings indicate an inverse U-shaped relationship. Finally, I find a strong effect of economic performance on election results in a subset of transition countries that I analyzed. In particular, support for the pro-reform parties is negatively related to unemployment and positively to economic growth, output level relative to 1989, and, surprisingly, inflation. Moreover, economic liberalization per se increases opposition against the reform, as the costs of the reform apparently go beyond what can be explained by deteriorating economic performance.

In the next section, I take stock of the main results of economic and political transition in 25 countries in Central and Eastern Europe (CEE) and the former Soviet Union (FSU). In section 3, after briefly surveying previous arguments put forward in the literature, I evaluate the relationship between economic and political liberalization, and economic performance. In section 4, I look at the relationship between economic performance and political support for reforms, as reflected in electoral outcomes in seven post-communist countries. Finally, section 5 concludes.

2 Growth Performance during Transition

The severity of the adverse effects of reforms adopted in early 1990s exceeded most expectations. Table 1 reports basic indicators of economic performance for 25 transition countries. According to the official statistics, economic activity virtually collapsed in many post-communist countries. By 1998, real GDP shrank to between 25 and 83 % of the level attained in 1989 (Georgia and Uzbekistan, respectively, were the two extremes). The average cumulative contraction of output for the 25 countries listed in Table 1 was 42 %. For comparison, US GNP fell by 34 % during the Great Depression. The output fall was also relatively long-lasting, the average duration of the depression was 5.6 years, 4.2 years in CEE and the Baltics and 7 years in the FSU. The subsequent cumulative increase of GDP was relatively small, 10 % on average. Price liberalization brought about a one-time inflationary jump as the prices adjusted to equate demand and supply. However, inflation spiraled away in several post-communist countries, reaching four or even five digit levels. Unemployment rate increased from virtually zero to well over 10% in most countries. Transition also brought about a dramatic increase in income inequality and poverty: for instance, the number of people below poverty line in the FSU increased from 14 million in 1989 to 147 million.

Insert Table 1 about here.

It is generally accepted that the official statistics exaggerate the severity of the output fall. The statistics directly measure the production of medium-sized and large firms, but only estimate the output of small firms which make up most of the new and growing private sector. Over-reporting under communism (for political reasons) and under-reporting at present (for tax purposes) also play a role. The official statistics only imperfectly estimate the transfer of economic activity from the official to the unofficial economy. In addition, output fell also because of the elimination of undesired production, reduction of waste, and fall in inventories as the shortage economy turned into a surplus one. Nonetheless, even if overestimated by the official statistics, the reform-induced output fall in CEE and FSU was undoubtedly very severe.

Several theoretical explanations have been suggested to account for the output fall. Calvo and Coricelli (1993) blame the credit crunch—credit restrictions and high real interest rates—due to overly restrictive monetary policy. Blanchard and Kremer (1997), and Roland and

Verdier (1999) develop supply-side explanations based on disorganization of production (supplier-buyer) relationships due to asymmetric information about outside options in bargaining, or search frictions and relation-specific investment, respectively. Finally, Hillman (1999) and Hillman and Ursprung (1999) suggest that the output fall occurred because economic and political reforms were not accompanied by a change of political culture. Hence, the political culture of rent seeking remained in place, and time and resources spent for rent-seeking activities even increased, thus precipitating the output fall. This proposition is supported also by Shleifer (1998) who compares the outcomes of transition in Poland and Russia. In particular, Shleifer notes that in Poland most of the post-communist political leadership are new politicians. In contrast, the Russian political elite is composed primarily of former communists.

The ultimate objective of the reforms was to remove the inefficiencies inherent to the socialist economy, and transfer resources to a more productive use. After an initial transitory decline, economic activity should have picked up and exceeded the pre-reform levels. Instead, the recovery proved to be slow or non-existent. As Table 1 reports, GDP on average increased by less than 10 % since the economy had hit the bottom. As of 1998, the recovery has not yet occurred in four countries: Russia, Ukraine, Moldova and Kazakhstan. Only in Poland and Slovenia output exceeded the pre-transition level by 1998. In general, the countries of Central Europe and the Baltics succeeded in stabilizing their economies and resuming growth, whereas economic performance was much worse in the Balkans and especially the FSU.

There are marked differences also in terms of progress in liberalization and implementation of democracy among the transition countries. The EBRD has published annual indicators of progress in transition since 1994. The average value[2] (henceforth referred to as the Liberalization Index) of these indicators as of 1998 is reported in Table 1. Accordingly, Hungary progressed furthest in terms of liberalization, closely followed by the Czech Republic, Slovakia, Poland and Estonia. In contrast, Turkmenistan, Belarus, and Tajikistan progressed the least.

Progress in political reforms is reflected in the indices of political rights and civil liberties

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[2] The EBRD index is based on the average of progress-in-transition indicators (large-scale and small-scale privatization, enterprise restructuring, price liberalization, trade and foreign exchange liberalization, competition policy, banking reform, securities markets, and legal rules on investment) compiled annually by the European Bank for Reconstruction and Development (EBRD). The indicators take values from 1 (little progress) to 4+ (comparable to developed industrial economies). The index reported in Table 1 is the unweighted average of the EBRD indicators (with 4+ replaced by 5). It is normalized so as to take values between zero (little liberalization) and one (maximum liberalization).

reported by the Freedom House. Table 1 reports the average value[3] (henceforth referred to as the Democracy Index) as of 1998/99. Accordingly, Hungary, along with the Czech Republic, Poland, Slovenia, and the Baltics are most democratic among the transition countries (having received the same marks as Germany or the UK). On the other hand, Belarus, Tajikistan, Turkmenistan and Uzbekistan are least democratic.

3 Determinants of Economic Performance

3.1 Previous Findings and Controversies

The question most often pondered by the literature concerns the relationship between economic performance during transition and the choice of reform strategy: Did the countries that chose a rapid reform strategy incur greater or smaller costs in terms of output decline and inflation? Did rapid reforms pay off with a faster subsequent recovery, or did the countries that postponed or avoided reforms succeed in avoiding the output fall? And, even more importantly, where the post-communist countries in a position to choose the speed of reforms, or was the choice pre-determined by their respective starting situation?

The literature attempting to answer these questions can be divided into two groups: those who argue that economic liberalization brought about better economic performance, and those who argue that initial conditions were crucial in determining both the progress in economic liberalization and economic performance.

The search for a causal relationship between economic liberalization and performance in transition was started by de Melo et al. (1996). They construct annual liberalization indices for three broad areas of reforms—liberalization of internal markets, liberalization of external markets, and privatization and restructuring—for the individual transition countries over 1989-94. These indices are the basis for their measure of economic liberalization—the cumulative liberalization index (CLI), defined as the sum of yearly weighted-average indices (with weights 0.3, 0.3 and 0.4, respectively). Their conclusion is that more liberalization was associated with higher growth and lower inflation (both averaged over 1993-94).

Other studies reached similar conclusions. Fischer et al. (1996, 1997) extend the analysis

[3] The Freedom House indices evaluate the extent of political rights and civil liberties. The index reported in Table 1 is the average of the two indices, normalized so that it ranges between zero (no democracy, original Freedom House 7) and unity (full democracy, Freedom House rank 1).

to panel data framework. Selowsky and Martin (1997), also using panel data, argue that liberalization has different effects on performance in CEE and the FSU. In particular, while liberalization has immediate positive effect on performance in CEE, it is associated with initial deterioration and only subsequent improvement in the FSU. Similarly, Tichit (1999) finds that several variables have different, sometimes even opposite effect on economic performance in the CEE and the FSU. Finally, Havrylyshyn et al. (1998) show that the effect of liberalization is more profound at a later stage in the transition than at its outset.

However, Åslund et al. (1996) find that the relationship between liberalization and average growth over 1989-95 turns out to be insignificant after including dummies for the ruble zone[4] and war-torn countries. Åslund et al. interpret this result as indicating the importance of initial conditions. Accordingly, the countries with more favorable initial conditions were able to liberalize more and experienced less severe economic decline. However, although this interpretation is plausible, the result also reflects the construction of the CLI. The FSU countries started liberalizing later and therefore their CLI, which reflects both the intensity as well as the duration of liberalization, is by definition lower.[5] The ruble-zone dummy then proxies for cumulative liberalization and effectively divides the post-communist countries into groups with high and low cumulative liberalization. Given the small sample size (24 countries), the CLI turns out insignificant. Moreover, Åslund et al. (1996) report significant effect of cumulative liberalization on the growth rate as of 1995 even when including the ruble-zone and war-torn dummies.

Heybey and Murrell (1999) as well as Krueger and Ciolko (1999) also underscore the importance of initial conditions. Both papers argue that economic liberalization is in fact endogenous and pre-determined by the initial conditions. Heybey and Murrell estimate a system of simultaneous equations to show that there is in fact two-way causation between economic growth and the speed of liberalization (measured as the change in the annual liberalization index). Krueger and Ciolko, in turn, show that the level of liberalization (measured by the CLI) is well explained by a simple regression including a dummy for the FSU (former Soviet Union), GNP per capita as of 1988 and the ratio of exports to GDP.

Finally, the effect of democracy on economic performance during transition has been

[4] All members of the former Soviet Union, including the Baltic states.

[5] Heybey and Murrell (1999) point out further problems related to the use of the CLI. In particular, the CLI reflects neither the level, nor speed of liberalization (the former is measured by the annual liberalization index whereas the latter is captured by the change of the annual index).

largely ignored in the literature.[6] Instead, the attention turned towards the relationship between democracy and economic liberalization. De Melo et al. (1996) observe that political liberalization (measured by the Freedom House index of political rights and civil liberties) is strongly and positively correlated with the liberalization index. They suggest that political liberalization encourages economic liberalization, although the causality can also be two-way. Accordingly, the effect of political liberalization on economic performance is only indirect, via its effect on economic liberalization.

3.2 Economic Liberalization and Initial Conditions

Table 2 presents the results of cross-country regressions for the 25 countries of Central and Eastern Europe and the former Soviet Union listed in Table 1. The dependent variable is the average growth. The regressions are estimated for three periods: the entire transition period (1990-98), the initial period characterized chiefly by contraction (1990-93), and the later period, which in most countries was associated with (at least the first signs of) recovery (1994-98). The unweighted average rate of growth during the entire period was –4.33% annually, during the contraction period, GDP on average fell by -9.71% per year, whereas the growth rate during the recovery was essentially zero, -0.03%. Separate analysis of the two sub-periods should reveal whether different factors were important during the early and later phases of the transition, or whether the effect of individual factors was different.

Insert Table 2 here.

The explanatory variables include the liberalization index, measures reflecting initial conditions, and some of the variables that were found to be significant in the growth literature. As pointed out above, the CLI may not be the best measure of economic liberalization for several reasons. Therefore, the regressions use the average values of annual liberalization indices, and thus account for the average level of liberalization during the respective period rather than cumulative liberalization or speed of liberalization.[7] As the EBRD started to report its liberalization index only as of 1994, the indices constructed by de Melo et al. (1996) are

[6] In contrast, the effect of democracy on economic performance developed and developing countries has received considerable attention, see Barro (1996) and the references therein.

[7] The problem with using the CLI is that, over longer period, a country, which started to liberalize earlier, could easily report higher CLI than a country that liberalized later but attained much higher level of liberalization. Using the speed of reforms as an explanatory variable is also problematic, as, for example, countries with no liberalization and complete liberalization would both report zero speed of liberalization.

used for 1990-93. For the regression covering the entire transition period, the series linking up de Melo et al.'s and EBRD indices, constructed by Havrylyshyn et al. (1998), is used.[8] The upper part of the table enters the liberalization index in linear form, whereas the lower part stipulates a quadratic relationship.

The regressions control for initial conditions by including the distance from the country's capital to Western Europe (represented by Brussels)[9] and a dummy for countries affected by military conflicts (equal to unity for Croatia, Macedonia, Armenia, Azerbaijan, Georgia and Tajikistan). The distance from Brussels serves as a proxy for a variety of factors such as historical legacies, social, cultural and religious traditions, level of economic development, quality of institutions and the rule of law, as well as the cost of engaging in economic relations with Western Europe.[10] The distance from Western Europe replaces the commonly used dummy for Former Soviet Union. Unlike the FSU dummy, it provides a continuous measure of initial conditions. Clearly, the initial conditions in Estonia were dramatically different from those in Tajikistan (for example).

The Liberalization Index is negatively correlated with the distance, the correlation coefficient between the distance from Brussels and the Liberalization Index for 1990-93 (1994-98) is –0.74 (–0.66). Hence, the further a country lies from Brussels, the more reluctant it was to implement radical economic reforms.

Overall, the effect of liberalization on growth is significant and positive in all three sub-periods. There are, however, important differences when comparing the contraction and the recovery. The effect during the contraction is better depicted by a quadratic relationship, which indicates a U-shaped pattern (Havrylyshyn et al., 1998, reach a similar conclusion). Accordingly, liberalization in transition countries retards growth at low levels but accelerates growth after a moderate level of liberalization has already been attained. Either no liberalization or full liberalization is better than intermediate liberalization. The minimum effect of liberalization is attained at value of liberalization index equal to 0.34, i.e. slightly higher than the value ascribed to Russia and Moldova during that period. Once the minimum level has been exceeded, there are increasing returns to further liberalization. It is important to note though that full liberalization is superior to no liberalization at all.

[8] I am grateful to Ron van Rooden for kindly sharing this series with me.

[9] As I was unable to obtain distance from Brussels for Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, I estimated it with 6,000 km—see Table 1.

[10] Brussels serves here purely as a point of reference for measuring distance from Western Europe. Fischer et al. (1998b) use distance from Brussels, Murrel (1996), on the other hand, uses the distance of Vienna. Neither, however, uses it as an explanatory variable in determining economic performance.

The U-shaped effect of liberalization on growth reflects, first, the fact that some countries started implementing economic reforms later, and accordingly succeeded to postpone the transition-induced contraction (for this reason, some analysts advocate the use of ‘transition time’ rather than calendar time). Note, however, that the effect of liberalization on growth is clearly positive in the later transition period, and, hence, a postponement of reforms can only provide temporary protection from contraction. Second, it indicates that while intermediate reform does not avoid disruptions to economic activity (or disorganization, as argued by Blanchard and Kremer, 1997), it does not deliver the same efficiency gains as a complete reform.

During the recovery period, the linear relationship fits quite well the relationship between liberalization and growth. The regression with the non-linear specification produces slightly lower adjusted R^2. Moreover, it indicates that the relationship is hump-shaped, with the maximum effect at value of 0.87, substantially higher than the maximum level of liberalization attained among the transition countries by 1998. Finally, the relationship during the entire transition period is also better depicted by a linear specification. The coefficients for the non-linear specification are jointly significant, but the minimum effect is estimated at value of –0.35, which is outside the actual range of the liberalization index. Hence, all observations lie along the upward sloping part of the U-shaped curve.

The effect of liberalization on growth is also economically significant. Full liberalization (increase in the value of the index from zero to unity) is associated with average growth higher by 16.2 percentage points during the contraction (based on the non-linear relationship) and 22.6 percentage points during the recovery (based on the linear relationship, the non-linear relationship predicts a gain of 16.9 percentage points).

Åslund et al. (1996) find that the effect of economic liberalization on economic performance becomes insignificant after controlling for initial conditions by including dummies for the FSU (including the Baltics) and countries affected by military conflicts. When controlling for the initial conditions by the distance from Western Europe along with the dummy for military conflicts, the effect of liberalization remains strongly significant in both periods. Hence, the regression results presented in Table 2 show quite convincingly that the countries that liberalized more aggressively in general record significantly better economic performance than the countries that proceeded in a more hesitant manner. To reconcile the result obtained here with those presented by Åslund et al. and other studies, one should note that their regressions were estimated for the early years of the transition when the effect of liberalization appears to be better accounted for by a non-linear relationship. In addition, the FSU dummy is not a very good measure of initial conditions, as it assumes identical initial conditions for a rather diverse group of countries.

It is, however, possible that the regression results reflect reverse causation, in particular, economic performance may determine the progress in terms of economic liberalization. To check for possible endogeneity, I estimated the regressions with liberalization indices pertaining to the first year of the respective period (i.e. 1990 for both 1990-93 and 1990-98 and 1994 for 1994-98). The regression results were affected only marginally.

The regressions reveal also the importance of initial conditions. Interestingly, the distance from Western Europe appears more important during the recovery than during the contraction. The difference in underlying initial conditions that is associated with being further from Brussels by one thousand kilometers implies a reduction in average growth by 1.1 percentage point during the recovery. The dummy for military conflicts has a strongly negative effect on economic performance during the contraction. Countries engaged in or affected by military conflicts experienced growth lower by 10.1 percentage points annually during the contraction. Somewhat surprisingly, at least at first sight, the dummy obtains a positive sign during the recovery, when the same countries report average annual growth higher by 4.7 percentage points. The positive coefficient of the conflict dummy in the recovery period apparently reflects the fact that the most of the conflicts have already ended or subsided by mid 1990s and the countries are now recovering and making up for the lost output. The main exception is Tajikistan, which is still stricken by continuing internal conflicts as well as by the civil war in neighboring Afghanistan.

Population growth, secondary-school enrollment and the initial level of GNP[11] are some of the variables typically found important in the economic growth literature—see, for example, Barro (1991), and Levine and Renelt (1992). Fischer et al. (1998a) use these and other variables to predict growth prospects for the transition countries.[12] The growth literature suggests that population growth has a negative effect and school enrollment a positive effect on growth. However, it appears that in the transition countries, population growth only affects

[11] The data can be criticized. Contemporaneous population growth and secondary-school enrollment were chosen even though these variables obviously need time to take effect. However, the alternative was to use data stemming from the communist period, which are known to be unreliable. The estimates of the initial GNP seem to be unrealistically high for the FSU republics. Given that these figures are in purchasing-power-parity terms, the high figures reported for the FSU probably reflect, among other factors, low prices for energy and housing.

growth during the contraction period, and its effect is actually positive. This may be due to the large migratory movements taking place in the wake of break-ups of the Soviet Union and Yugoslavia. Migration, unlike natural population growth, entails departures or arrivals people in economically productive age, and it is not surprising that its effect is positive (Tichit, 1999). On the other hand, population growth turned out insignificant in the regressions for the recovery period and was therefore omitted.

The secondary-school enrollment has the expected sign and is significant in both sub-periods: better human capital improves growth performance. Other variables suggested by the growth literature, in particular primary-school enrollment and government expenditure, were generally not significant. In fact, if anything, government expenditure actually appears to have a mild positive effect on growth during transition (Campos, 1999, obtained a similar result). Investment (as a share of GDP) has a significant and positive effect during the contraction only, whereas it is insignificant and negative during the recovery (not reported). Investment apparently takes time to have a positive effect on economic performance. Tichit (1999) found that investment has positive effect on growth only in the CEE countries, whereas it is insignificant in the FSU. This pattern can also be behind the insignificant results obtained for a cross section of CEE and FSU countries.

The coefficient on the initial GNP per capita is negative (although during the recovery it is only marginally significant). The negative coefficient is consistent with the notion of conditional convergence, as predicted by the neoclassical growth theory. Hence, countries that were initially poorer, tend to grow faster (when controlling for other factors affecting growth).

The regressions reported in Table 2 provide a rather good account of the determinants of growth in the transition countries, with the adjusted R^2 ranging between 0.57 and 0.80. The most important explanatory variable is the liberalization index, which alone (along with the constant) produces an adjusted R^2 of 0.48 for the entire-period regression. The distance from Brussels alone results in an adjusted R^2 of 0.20. The dummy for military conflict alone produces an adjusted R^2 of 0.13. Population growth, secondary school enrollment, and the initial GNP each yield an adjusted R^2 between 0.02 and 0.04.

[12] However, because of the extraordinary nature of the post-communist transition, it is not surprising to find that the determinants of growth in transition countries are different from those in market economies. See Campos (1999) for more discussion.

3.3 Democracy and Economic Performance

Barro (1996), in his well know study on the relationship between democracy and growth found that "democracy enhances growth at low levels of political freedom but depresses growth when a moderate level of freedom has already been attained" (p. 1). A clear policy implication based on this conclusion is that the transition countries should have introduced only limited democracy, until reaching a level of economic development when they can afford the luxury of full democracy. In fact, Barro (1996) predicts that Hungary, one of the few post-communist countries in his data set, will experience a deterioration of democracy between 1994 and 2000, as the extent of democracy reached by 1994 was not commensurate to its level of economic development.

That is not what has happened. Table 1 reports the values of the Democracy Index as of 1998/99. The countries that introduced widest democracy (Hungary, the Czech Republic, Poland, Slovenia, and the Baltics) also achieved the best results in terms of economic performance. In contrast, some of the countries that implemented only moderate democracy (for example Russia, Ukraine and Moldova) saw their economic activity plunge with little signs of subsequent recovery.

The liberalization and policy discussion abounds with arguments both in support and against introduction of democracy simultaneously with economic reforms. On the one hand, it is argued that an authoritarian government may be necessary to implement reforms, which will in the end increase efficiency but are costly in the short term. Democracy would put political constraints on the ability of the government to implement such reforms. Fernandez and Rodrik (1991) show that rational voters may reject a reform that benefits a majority if individual payoffs are uncertain. Such a reform would be sustained *ex post* once it is implemented but would be rejected if subjected to a vote *ex ante*. Similarly, Alesina and Drazen (1991) show that efficiency-enhancing reform can be delayed due to war of attrition and asymmetric distribution of payoffs. The experience of Latin American countries as well as South Korea and more recently China is often quoted as an example of a successful transition without simultaneous political reform (see for example Edwards, 1991, and Rodrik, 1996).

On the other hand, lack of democracy, and the lack of rule of law typically associated with it, increase the uncertainty and reduces incentives for engaging in profit-seeking activities. As North (1993) puts it, "well specified and enforced property rights, a necessary condition for economic growth, are only secure when political and civil rights are secure; otherwise arbitrary confiscation is always a threat."[13] Anecdotal and survey evidence, especially from the former Soviet Union, seems to support this point (see Shleifer, 1998).

Yet, the effect of democracy on economic performance during transition has not been explicitly studied. De Melo et al. (1996) and Dethier et al. (1999) observe that the levels of liberalization and democracy are strongly correlated in the transition countries. Indeed, the correlation coefficient between the average indices of liberalization and democracy over 1990-98 is 0.88. They argue that democracy facilitates economic liberalization in the transition countries. Thus, the perceived relationship between democracy and economic performance is only indirect, via the effect of democracy on economic liberalization.

Table 3 fills this void by empirically analyzing the relationship between democracy and economic performance in the transition countries. The regressions control for some of the variables included already in Tables 2: the liberalization index, the distance from Western Europe, secondary school enrollment, the conflict dummy, and the initial GNP. The democracy index is based on the scores reported by the Freedom House, as explained above. As with the liberalization index, the indices used are the averages over the respective periods. Again, contraction and recovery periods are considered separately. Non-linear relationship is stipulated for the liberalization index during the contraction, based on the findings of the preceding sub-section.

Insert Table 3 here.

It is important to note that the effect of liberalization remains strongly significant and of similar magnitude as in the corresponding regressions in Table 2. Hence, the effect of democracy goes beyond facilitating economic liberalization. On the other hand, the distance from Western Europe is no longer significant in the regression for the contraction period after controlling for democracy (and it is only marginally significant during the recovery). This may indicate that the extent of democracy is correlated with (some of) the initial conditions. In particular, the further a country is from Western Europe, the less democratic it is (correlation coefficient –0.82).

As with liberalization, the relationship between democracy and growth is different during

[13] North (1993) argues that England and the Low Countries achieved sustained per capita growth during and after the Industrial Revolution because political freedoms and representative government guaranteed property rights. In contrast, Spain, Portugal, the Arab world and medieval China eventually failed economically, despite having created vast empires and assembled great wealth.

the contraction and the recovery. During the contraction, as well as during the entire transition period, more democracy actually hurts growth performance of the transition countries. On the other hand, the effect is positive but insignificant during the recovery. Hence, simultaneous economic liberalization and introduction of democracy during the early phase of transition was indeed associated with worse economic performance. Transition countries thus could do better by postponing the introduction of democracy temporarily while implementing economic reforms. This goes against the argument put forward, among others, by de Melo et al. (1996) and Dethier et al. (1999) who indicate that democracy should have, at least indirectly, a positive effect on growth, as it reinforces economic liberalization. On the contrary, the results presented here indicate that, once controlling for economic liberalization, the effect of democracy is negative.[14]

The negative effect of democracy on growth can be ascribed to two reasons (at least). First, it may reflect increased political uncertainty, as democratic governments are faced with political backlash in the wake of short-term adverse effects of the reforms. Such uncertainty reduces incentives to engage in profit-bearing activities. Second, governments facing reelection may pursue short-term political aims, even if these are detrimental to long-term economic performance. Both factors become less important during the later phase of the transition, as economic and political developments consolidate. The insignificant result for the recovery period may therefore occur as the relationship between democracy and growth converts from a negative one to a different, long-term relationship.

The effect of democracy on growth in transition stands in contrast to the one found by Barro (1996), although he obtains his result with a different set of explanatory variables. As all transition countries started off with from low levels of democracy, according to the pattern found by Barro the effect of introducing democracy should be initially positive, until an intermediate level is reached. Instead, the relationship appears negative for the transition countries.

As was the case with the effect of liberalization on growth, there is also the possibility of reversed causation. Countries that experienced less severe transition-induced decline may have found it easier to implement political reforms. Or, governments experiencing adverse economic developments shied from political liberalization in order to avoid being toppled in

[14] The effect of democracy appears U-shaped during the contraction when the liberalization index is included only in linear form. When both indices are included in quadratic form, only the U-shaped effect of liberalization remains significant, whereas the joint significance level of the linear and quadratic terms for democracy falls to 20%.

democratic elections. Indeed, regressions with the initial level of democracy (1990 and 1994 for the respective periods) instead of average values produced insignificant results. However, the informational value of the 1990 democracy index is very questionable, as it does not distinguish among the constituent parts of the Soviet Union, Yugoslavia and Czechoslovakia. Therefore, it is not all that surprising that it is insignificant.[15]

4 Economic Performance and Political Support for the Reforms

The adverse effects of reforms have had profound political consequences. The support for radical economic reforms quickly dissipated in most of the post-communist countries. The intensity of political backlash against the reforms has been related to the extent of adverse effects of the reforms, in particular unemployment.[16] A good example of this relationship is the Czech Republic, where the pro-reform parties remained in power as long as unemployment remained low. Fortunately, in the countries where post-communist parties returned to power, reforms were generally not reversed—in some cases (especially Hungary and Poland), the post-communists proved to be more enthusiastic reformers that the parties that originally instigated the reforms.

After studying the relationship between economic and political liberalization and economic performance, the present section documents the reverse relationship—the effect of economic performance on political developments, as reflected in electoral outcomes in selected transition countries.[17] The relationship between economic performance and the support for reforms has been explored mainly theoretically (see, for example, Rodrik, 1995), but empirical analysis has been scarce up to date, primarily because of the lack of appropriate data. Recent empirical work includes Brainerd (1999), Hayo (1999), Warner (1997) and Fidrmuc (2000a,b) (see Fidrmuc, 2000a, for additional references). The approach utilized in the current paper is similar to that of Fidrmuc (2000a,b), but instead of regional data, the analysis is based on a cross section of 17 elections in seven countries of Central and South-

[15] Separate indices for the constituent parts of the former Soviet Union and Yugoslavia are available as of 1991, for Czechoslovakia since 1993. However, the indices do not seem very reliable in the first year of two, as the analysts apparently need longer time to learn to assess political freedoms in the newly established countries. For example, Tajikistan received an index of 0.667 in 1991, which was reduced to 0.167 one year later and subsequently to zero.

[16] See Fidrmuc (2000a,b).

[17] Note, however, that the subject of this section is not precisely the reverse of that of the previous section. In particular, this section analyzes the effect of economic performance on the support for reforms (both economic and political), not the progress of the reform itself.

Eastern Europe: the Czech Republic, Slovakia, Hungary, Poland, Romania, Bulgaria, and Slovenia. Only a subset of the transition countries was selected, because, in order for the analysis to be meaningful, the countries should be democratic. This criterion excludes the bulk of the former Soviet Republics (see Table 1). Furthermore, classification of parties according to their political orientation is tricky in the former Soviet Union, as nationalist often means anti-Soviet and pro-reform (especially in the Baltics). Last but not least, these are the countries for which information is most readily available.

Table 4 presents the results of an analysis of election results for a cross section of post-communist countries. The dependent variable is the share of votes received in each particular election by parties categorized along two dimensions: their political orientation (pro-reform parties, and left wing/nationalist parties), and incumbency. The election results are regressed on variables reflecting economic performance: unemployment rate, growth rate, index of output level with 1989 equal to 100, and the inflation rate. In addition, the regressions reported in the lower part of Table 4 included also the liberalization and democracy indices. All variables pertain to the election year.[18] The regressions are estimated by OLS with heteroskedasticity robust standard errors. Using the logit transformation for the dependent variable yielded virtually identical results.[19]

Insert Table 4 here.

The results reveal a pattern similar to the findings of Fidrmuc, 2000a,b. The regressions where parties are classified according to their political orientation have very high explanatory power (with the adjusted R^2 of 0.6 or higher). In contrast, the analysis of the votes of the incumbent parties yield adjusted R^2 of only 0.3-0.4. Hence, the categorization of parties according to their political orientation is apparently better suited for an analysis of the patterns underlying voting behavior in the transition countries.

Economic performance has strong effects on electoral outcomes. Unemployment reduces the support for pro-reform parties, and increases the support for left wing and nationalist parties. One percentage point of unemployment transforms into a gain of nearly two percentage points for the left-wing and nationalist parties and a corresponding loss for the reformers. Economic growth shows positive effect on the votes for pro-reform parties and

[18] Choosing the year prior to the election delivered worse quality of statistical fit.

negative effect on the votes for left wing and nationalist parties (however, both effects are only significant, it at all, in the regressions that include also the indices of liberalization and democracy). The higher is the level of real output compared to 1989, the greater is the support for the pro-reform parties and lower the support for the left-wing and nationalist parties.

The effect of inflation is somewhat surprising—apparently, inflation increases support for the pro-reform parties and reduces support for the left wing and nationalist parties. A plausible explanation of this result is that the support for the pro-reform parties rises when inflation is high, as these parties have established a record of reigning in inflation.

The magnitude of these effects is economically (and politically) significant. An increase in the unemployment rate by 4 percentage points (as was, for example, the case in the Czech Republic between the 1996 and 1998 elections) implies an expected loss of some 8 percentage points in support of the reformers and a corresponding gain in support for the left wing and nationalists. A recession causing the GDP to fall by 3 percent in the election year implies a loss of one percentage point of support for the reformers and a similar gain for the left wing and nationalist. Inflation, on the other hand, has only sizeable effects on electoral outcomes when it approaches three-digit levels.

Controlling for the effects of liberalization and democracy on electoral outcomes improves the quality of the statistical fit (except for the regression for the incumbent parties). Inclusion of these two indicators is to reveal whether the extent of economic liberalization and democracy affect electoral outcomes, even when controlling for economic performance.

The results illustrate a peculiar pattern. The support for the pro-reform parties falls with greater liberalization but rises with greater extent of democracy. This implies that, on the one hand, greater economic liberalization reduces political support for the reforms. On the other hand, pro-reform parties' political position is apparently strengthened by wider ranging democracy. This empirical finding goes counter the argument put forward by some analysts, who argue that the governments implementing wide-ranging reforms need to be *shielded* from political backlash caused by adverse short-term effects of the reforms (see the discussion in Hellman, 1999, and the references cited therein). On the contrary, democracy-minding reformers are apparently rewarded by higher political support (which, however, does not make them immune to political backlash, which can still occur in response to the adverse effects of the reforms). The effect of liberalization and democracy on the support for left-wing

[19] The logit transformation corresponds to converting the dependent variable into the following form: log(V/(1-V), where V is the vote share for a particular party (cf. Greene, 1997, p. 895).

and nationalist parties is positive, but essentially insignificant (apparently due to the correlation of the two indices, as the effect turns out significant when only one index, either that of liberalization or democracy, is included).

Greater liberalization brings about lower support for the pro-reform parties, even after controlling for the main adverse effects of the reforms—unemployment, output fall and inflation. Hence, the adverse effects of economic reforms apparently go beyond those captures by basic economic statistics. A plausible interpretation is that the greater is liberalization, the larger is the fraction of the electorate affected by transition-related redistribution of rents and changes in relative social and economic position. This is likely to be the case at least in the short term, whereas the favorable effects of the reform generally accrue later.

The regression for the incumbents produces much worse statistical fit than the regressions with parties classified according to their political orientation. This is analogous to the findings reported by Fidrmuc (2000b). Only the unemployment rate and the output level are significant and have the expected signs. Growth is insignificant and even has the wrong sing. Only the unemployment rate and the output level are significant and have the expected signs. Growth is insignificant and even has the wrong sing. Finally, greater democracy makes the government more likely to be toppled in an election (although the effect is only marginally significant).

The stronger results when parties are classified according to their political orientation rather than incumbency suggest that the patterns of political support are rather stable over time and independent of the parties' incumbency status. Hence, voters' support is associated with the political orientation of individual parties (and thus the policies that the parties are expected to deliver) rather than the past performance of the party or coalition currently in office. The former pattern of voters' support can be denoted as *clientelistic voting*—voters tend to associate themselves with a party that best represents their interests (Nannestad and Paldam, 1994, denote this as the clientele hypothesis). The latter pattern—*retrospective voting* (or the responsibility hypothesis, according to Nannestad and Paldam, 1994)—is the pattern commonly observed in the developed countries, accordingly, the voters punish the government for bad economic performance by voting for the opposition.

5 Conclusions

This paper illustrates important inter-relations between economics and politics during the post-communist transitions in Central and Eastern Europe. Economic and political liberalization affect economic performance. Economic performance, in turn, affects the outcomes of political processes, which eventually determine whether liberalization and democracy will be continued or reversed.

The main findings of the paper at hand are the following: First, greater liberalization is generally associated with better economic performance, even when controlling for different initial conditions. While the relationship between liberalization and growth appears U-shaped during the early years of transition, it later becomes clearly positive. Second, introduction of democracy reduces growth during the early phases of transition after controlling for the effects of economic liberalization and initial conditions. Later, the relationship becomes insignificant. Third, economic performance in turn has a strong effect on electoral outcomes in the transition countries. Support for the pro-reform parties is positively related to economic growth, the level of output relative to the 1989 level and negatively related to unemployment. In addition, inflation increases support for the pro-reform parties, probably reflecting the expectation that a pro-reform government will reign in run-away inflation. Finally, economic liberalization per se increases the opposition against the reform, even when controlling for the adverse effects of transition in terms of economic performance. Hence, the costs of the reform go beyond rising unemployment and transitional recession. In contrast, the level of democracy has a positive effect on the support for reforms.

The U-shaped pattern of the relationship between liberalization and growth during early transition helps to explain why some post-communist countries resumed growth after two or three years of economic declines whereas others continued to muddle through much longer. Intermediate reforms deliver worse economic performance than either no reforms at all or more wide ranging reforms. As Fidrmuc (2000c) argues, the growth prospect of the countries experiencing continuous declines could be improved dramatically if they caught up with the more reform-enthusiastic countries in terms of economic liberalization. If, on the other hand, they will sustain low levels of liberalization, their economic decline is likely to continue.

The findings of this paper give some credit to the suggestion that countries in transition should implement wide ranging economic reforms while temporarily postponing the introduction of democracy. However, the advantage so obtained only lasts for the initial transition period. On the other hand, the analysis of electoral outcomes reveals that greater level of democracy is associated with greater support for the pro-reform parties (after controlling for other determinants of political support, in particular measures of economic performance and the level of liberalization).

The paper at hand also documents the political risks associated with a reform that is excessively costly. Adverse effects of the reform give rise to a political backlash against the reforms, which can eventually thwart the continuation of the reforms. Hence, while the radical reforms generally give rise to better economic performance in the long term, the need to sustain sufficient political support for their continuation requires careful balancing of the costs and benefits of the reforms, and in particular their effects on different socio-economic groups. Such balancing will create constituencies in support of further reforms—as argued, for example, by Dewatripont and Roland (1995).

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Table 1 Countries in Transition: Indicators of Economic Performance, Liberalization, Democracy, and Initial Conditions

	Avg. Growth 1990-98	Avg. Growth 1990-93	Avg. Growth 1994-98	GDP Bottom 1990-98	GDP Increase 1990-98	Avg. Inflation 1990-98	Unemploy ment Rate 1995	GNP p.c. [USD] 1989	EBRD Lib. Index 1994	EBRD Lib. Index 1998	Democracy Index 1998/99	Distance fr. Brussels [km]	Sec. Sch. Enrol. 1993	Pop. Growth 1990-94
Czech Rep.	-0.26	-3.65	2.46	85.24	11.40	16.14	2.90	8600	0.625	0.656	0.917	913	85	-0.10
Slovakia	0.22	-6.83	5.86	74.97	24.67	16.31	13.10	7600	0.583	0.625	0.833	1223	87	0.30
Hungary	-0.42	-4.78	3.06	81.89	13.27	23.61	10.40	6810	0.583	0.688	0.917	1412	79	-0.30
Poland	1.98	-3.05	6.00	82.21	34.94	93.43	14.90	5150	0.583	0.625	0.917	1338	82	0.30
Slovenia	0.43	-4.08	4.04	82.04	20.76	106.87	13.90	9200	0.542	0.594	0.917	1352	88	-0.10
Bulgaria	-4.39	-7.40	-1.98	63.19	2.53	211.16	11.10	5000	0.375	0.438	0.750	2175	66	-0.80
Romania	-2.56	-6.45	0.56	74.99	2.68	117.17	9.50	3470	0.417	0.406	0.833	2234	86	-0.50
Albania	-0.77	-8.83	5.68	60.38	26.02	49.16	16.90	1400	0.375	0.406	0.417	2427	79	-0.60
Croatia	-2.42	-12.35	5.52	58.58	18.01	336.54	14.50	6171	0.542	0.531	0.500	1399	80	0.00
Macedonia	-5.32	-13.05	0.86	55.11	4.09	321.96	37.70	3394	0.458	0.438	0.667	2225	53	0.90
Estonia	-2.58	-11.23	4.34	60.76	15.60	168.76	9.70	8900	0.583	0.625	0.917	2508	87	-1.20
Latvia	-4.88	-14.33	2.68	50.97	7.24	148.12	6.60	8590	0.458	0.531	0.917	2197	84	-1.20
Lithuania	-4.43	-12.05	1.66	53.29	10.31	201.46	6.20	6430	0.500	0.500	0.917	1785	76	0.00
Russia	-6.17	-7.80	-4.86	55.77	0.00	344.36	8.30	7720	0.417	0.375	0.500	2607	84	0.00
Ukraine	-10.29	-10.63	-10.02	36.76	0.00	823.76	0.50	5680	0.083	0.344	0.583	2215	65	0.00
Belarus	-2.54	-5.35	-0.30	62.69	14.36	590.24	2.70	7010	0.167	0.125	0.167	1881	89	0.20
Moldova	-10.58	-12.33	-9.18	33.63	0.00	285.51	1.40	4670	0.292	0.406	0.667	2233	67	-0.10
Armenia	-7.24	-22.98	5.34	31.00	9.20	1102.93	6.70	5530	0.208	0.406	0.500	4167	80	1.40
Azerbaijan	-8.06	-14.53	-2.88	36.96	6.61	472.66	17.00	4620	0.083	0.313	0.333	4321	89	1.00
Georgia	-9.63	-25.80	3.30	25.38	7.77	2212.90	2.60	5590	0.083	0.406	0.583	4193	n.a.	-0.20
Kazakhstan	-5.14	-6.38	-4.16	61.26	0.00	584.22	1.70	5130	0.167	0.438	0.250	6000[e]	89	0.10
Kyrgyzstan	-5.20	-9.25	-1.96	50.39	8.23	229.34	3.00	3180	0.458	0.469	0.333	6000[e]	n.a.	0.40
Tajikistan	-8.61	-12.18	-5.76	39.19	2.78	552.89	2.00	3010	0.167	0.219	0.167	6000[e]	98	2.00
Turkmenistan	-8.28	-4.50	-11.30	42.04	1.89	838.71	3.00	4230	0.042	0.125	0.000	6000[e]	n.a.	4.60
Uzbekistan	-1.18	-3.08	0.34	83.36	5.79	411.13	0.40	2740	0.250	0.313	0.083	6000[e]	96	2.20
Average	**-4.33**	**-9.71**	**-0.03**	**57.68**	**9.93**	**410.37**	**8.67**	**5432**	**0.36**	**0.440**	**0.583**	**2992**	**81.32**	**0.33**

Sources: EBRD Transition Report (various issues), de Melo et al. (1996, 1997), Freedom House, World Bank World Development Report 1996, Shell Route Planner.

Notes: GDP Bottom refers to the index for the lowest level of GDP during the period 1990-98, with 1989=100. GDP Increase is the cumulative increase in GDP since the lowest level has been reached. GNP per capita in 1989 is in US$ at purchasing power parity. EBRD Liberalization Index is the unweighted mean of the EBRD progress in transition indicators as of 1994, normalized so that it ranges between zero (no liberalization) and unity (complete liberalization). Democracy Index is the average of scores for political rights and civil liberties, respectively, normalized so that it ranges between zero (no democracy) and unity (complete democracy). Distance from Brussels is road distances in kilometers. Distances indicated with [e] are estimates rather than actual distances. School enrollment is that for males.

Table 2 Economic Liberalization, Initial Conditions and Economic Performance

Average Growth over:	1990-98	t-stats	1990-93	t-stats	1994-98	t-stats
Constant	-23.653	-6.12	-20.209	-4.58	-21.094	-3.54
Liberalization Index	16.208	4.23	10.993	3.06	22.559	4.48
Distance from Brussels	-0.00077	-2.10	-0.00060	-0.96	-0.00108	-2.25
Population Growth	0.608	3.92	2.028	4.01		
Sec. School Enrollment	0.207	4.70	0.168	2.96	0.214	2.79
Conflict Dummy	-2.222	-3.71	-10.136	-6.55	4.733	2.85
1989 GNP p.c.	-0.00062	-4.53	-0.00072	-2.59	-0.00063	-1.48
Adj.R^2	0.798		0.723		0.583	
Average Growth over:	**1990-98**	**t-stats**	**1990-93**	**t-stats**	**1994-98**	**t-stats**
Constant	-20.843	-3.64	-11.203	-3.02	-25.653	-4.33
Liberalization Index	6.365	0.35	-35.921	-2.437	39.846	2.70
Liberalization Squared	9.122	0.59	52.150	3.14	-22.941	1.21
Distance from Brussels	-0.00069	-2.14	-0.00039	-0.80	-0.0011	-2.32
Population Growth	0.405	1.03	0.729	1.11		
Sec. School Enrollment	0.201	4.88	0.159	3.09	0.233	3.22
Conflict Dummy	-2.210	-3.49	-10.300	-7.42	4.645	2.88
1989 GNP p.c.	-0.00064	-4.64	-0.00082	-3.34	-0.00054	-1.27
Adj.R^2	0.789		0.782		0.577	
Joint Significance Liberalization	0.000		0.000		0.000	
Minimum/Maximum effect at:	-0.35		0.34		0.87	

Notes: Estimated by OLS with heteroskedasticity robust t-statistics, for the 25 countries included in Table 1. The liberalization index is the average annual liberalization indices over the respective period. The indices used for 1990-98 and 1990-93 are based on those constructed by de Melo et al. (1996) and extended by Havrylyshyn et al. (1998). The indices used for 1994-98 are from the EBRD Transition Report (various issues). The conflict dummy equals one for Croatia, Macedonia, Armenia, Azerbaijan, Georgia and Tajikistan. The initial per capita GNP is in purchasing power parity terms, in US dollars. The distance from Brussels for Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan is estimated as 6,000 km. Population growth is averaged over 1990-94, in percent, according to the World Bank World Development Report 1996. Secondary school enrolment is males only, in percent, according to World Bank World Development Report 1996. The missing values of school enrollment for Georgia, Kyrgyzstan and Turkmenistan were substituted by the sample average school enrollment. Joint Significance Liberalization is the joint significance level of the liberalization index and its squared value. Minimum/Maximum effects refer to the level where the effect of liberalization reaches its minimum or maximum in the non-linear specification.

Table 3 Democracy and Economic Performance

Average Growth over:	1990-98	t-stats	1990-93	t-stats	1994-98	t-stats
Constant	-21.053	-4.17	-6.277	-1.41	-23.926	-3.17
Liberalization Index	20.712	6.13	-44.156	-4.72	17.853	2.85
Liberalization Squared			65.380	6.45		
Distance from Brussels	-0.00075	-2.00	-0.00025	-0.71	-0.00090	-1.52
Democracy	-6.557	-1.81	-7.139	-1.92	4.432	0.94
Sec. School Enrollment	0.182	3.79	0.141	2.54	0.241	2.70
Conflict Dummy	-2.609	-3.16	-10.855	-8.11	4.924	2.81
1989 GNP p.c.	-0.00048	-3.25	-0.00068	-2.45	-0.00072	-1.63
Adj.R^2	0.795		0.786		0.571	
Joint Significance Liberalization			0.000			
Minimum/Maximum effect at:			0.34			

Notes: Estimated by OLS with heteroskedasticity robust t-statistics, for the 25 countries included in Table 1. See also Notes to Table 2. Democracy Index is the based on the average of political rights and civil liberties according to the Freedom House and normalized so that it ranges between zero and unity (see Notes to Table 1). The indices used in the regressions are the averages for the respective periods. Joint Significance Liberalization is the joint significance level of the liberalization index and its squared value. Minimum/Maximum effect refers to the level where the effect of liberalization reaches its minimum or maximum in the non-linear specification.

Table 4 Economic Performance and Election Results

	Pro-reform Parties	t-stats	Left wing + Nationalists	t-stats	Incumbents	t-stats
Constant	8.736	0.84	39.338	3.42	1.720	0.09
Unemployment Rate	-1.966	-5.86	1.943	4.18	-1.103	-3.21
Growth Rate	0.381	1.40	-0.265	-0.90	-0.349	-1.01
Output [1989=100]	0.492	4.43	-0.086	-0.79	0.488	2.46
Avg. Inflation	0.040	8.08	-0.030	-5.01	0.004	0.46
Adj. R^2	0.785		0.646		0.365	
	Pro-reform Parties	**t-stats**	**Left wing + Nationalists**	**t-stats**	**Incumbents**	**t-stats**
Constant	12.444	2.03	23.098	2.52	12.051	0.67
Unemployment Rate	-1.979	-5.64	1.939	4.25	-1.095	-3.03
Growth Rate	0.364	1.59	-0.445	-1.92	-0.212	-0.57
Output [1989=100]	0.379	4.43	-0.200	-2.72	0.612	2.48
Avg. Inflation	0.037	10.46	-0.030	-9.02	0.005	0.73
Liberalization Index	-34.788	-2.97	12.766	0.84	3.787	0.19
Democracy Index	40.113	3.27	19.880	1.31	-29.328	-1.48
Adj. R^2	0.815		0.687		0.316	

Notes: Estimated by OLS with heteroskedasticity robust t-statistics. Number of observations is 17. The parties are classified along two dimensions: pro-reform vs. left-wing and nationalists, and incumbent vs. other (not reported). Average vote shares are 35.6% for the pro-reform parties, 48.6% for the left wing and nationalists, and 32.8% for the incumbent. The dependent variable is the share of votes for parties in the respective category in elections in the Czech Republic (1992, 1996, 1998), Slovakia (1992, 1994, 1998), Hungary (1994, 1998), Poland (1993, 1997), Romania (1992, 1996), Bulgaria (1991, 1994, 1997), and Slovenia (1992, 1996). All explanatory variables pertain to the election year. See the Notes following Table 1 for definitions of individual explanatory variables.

Source of election data: The Handbook of Political Change in Eastern Europe.

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ISSN 1436 - 6053

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