

Belke, Ansgar; Bordon, Ingo G.; Melnykovska, Inna; Schweickert, Rainer

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## Prospective membership and institutional change in transition countries

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## **Working Papers**

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### **Prospective Membership and Institutional Change in Transition Countries\***

**Ansgar Belke, Ingo Bordon, Inna  
Melnikovska, Rainer Schweickert**

**No. 1562 | October 2009**

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## **Prospective Membership and Institutional Change in Transition Countries\***

by

Ansgar Belke, Ingo Bordon, Inna Melnykovska and Rainer Schweickert

### **Abstract**

This paper quantifies the impact of incentives related to potential membership on institutional change as measured by the World Bank Governance Indicators (WBGI). Based on a panel of 25 transition countries for the period from 1996 to 2008 we show that pre-accession incentives provided by EU *and* NATO clearly matter for institutional development. In addition, path-dependency determined by cultural norms may be overcome by economic liberalization while foreign aid seems to hamper institutional development.

*JEL-Codes:* F15, F20, F50, P20, P30, O19

*Keywords:* EU, NATO, Transition Economies, Institutional Change, Governance

### **Ansgar Belke**

University of Duisburg-Essen and DIW Berlin  
Universitaetsstr. 12  
45117 Essen, Germany  
Phone: +49-201-8103-2277  
E-mail: [ansgar.belke@uni-due.de](mailto:ansgar.belke@uni-due.de)

### **Inna Melnykovska**

University of Kiel  
Olshausenstraße 40  
24089 Kiel, Germany  
Phone: +49-431-880-5217  
E-mail: [inna.melnykovska@politik.uni-kiel.de](mailto:inna.melnykovska@politik.uni-kiel.de)

### **Ingo Bordon**

University of Duisburg-Essen  
Universitaetsstr. 12  
45117 Essen, Germany  
Phone: +49-201-8103-2263  
E-mail: [ingo.bordon@uni-due.de](mailto:ingo.bordon@uni-due.de)

### **Rainer Schweickert**

Kiel Institute for the World Economy  
Düsternbrooker Weg 120  
24105 Kiel, Germany  
Phone: +49-431-8814-494  
E-mail: [rainer.schweickert@ifw-kiel.de](mailto:rainer.schweickert@ifw-kiel.de)  
(Corresponding author)

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## 1. Introduction

Institution building in transition countries offers a unique historic experiment (Kornai 2006). Because most countries had to start from scratch in the 1990s, institutional change was comparably comprehensive, proceeded at a relatively high speed, and was especially prone to external influences on domestic policy decisions. Clearly, Europeanization, i.e. the adoption of EU rules by transition countries, is possibly “the most massive international rule transfer in recent history” (Schimmelpfennig and Sedelmaier 2005). The “Copenhagen criteria” for accession to the EU demand the fulfillment of a series of political, legal and economic criteria and the EU has indeed been successful in promoting democracy and economic development by fostering institution building in most central and eastern European transition countries (Roland 2006).

So far, the empirical evidence on the effects of potential membership on institutional dynamics in transition countries is rather limited. Of course, the impact of the EU has received some attention but recent papers focus mainly on internal economic, political, and cultural factors (Di Beck and Laeven 2006; Belke, Goecke and Hebler 2005; Tommaso, Raiser and Weeks 2007) treating accession to the EU rather as a control variable than as a main determinant of institutional change. In addition, the potential of NATO accession to provide incentives for institutional change has, so far, been neglected. NATO enlargement has been mostly analyzed with respect to economic aspects of regional security (e.g. Sandler and Hartley 1999) while, much as is the case for the EU, NATO accession is clearly conditioned on institutional reforms.

This paper intends to fill a gap in the literature by quantifying the effects of conditionality related to accession to EU and NATO on institutional change in transition countries. We are able to show that for our panel of transition countries, incentives provided by both EU *and* NATO clearly matter for institutional development. Section 2 gives a short overview of the existing literature which presents our theoretical arguments in terms of benefits and costs of institution building and serves to identify control variables for the subsequent empirical analysis. We proceed by outlining the empirical strategy and the operationalization of the theoretical concepts into measurable variables in section 3. Section 4 presents the empirical findings and section 5 concludes.

## **2. The importance of external determinants of institutional change**

The case of European transition countries is clearly different from other developing and emerging market economies. Compared to developed countries, all of them had to built up democratic and market oriented institutions from scratch. This implied that institution building was comprehensive and fast. At the same time, the reunification of Europe after the breakdown of communist regimes has provided a strong pull effect in favor of good institutions. This implies that external influences driving institutional change should figure prominently in transition countries.

Generally, international organizations provide economic and other incentives in order to influence domestic reform policies. Offering conditional offers of membership and cooperation, they try to increase the net benefits of adopting a set of institutions which they see as desirable. They may even offer (or demand from) cooperating countries to import their institutions in order to reduce the costs and speed up institutional reforms (Way and Levitsky 2007). In the context of the European transition countries, three international organizations are providing this kind of incentives and have integrated transition countries over the past 15 years: EU, NATO, and WTO (see Table 1 for the chronology of cooperation and accession).

- Table 1 about here -

Concerning the impact of the EU on institutional change in transition countries, there is little doubt that membership matters. Way and Levitsky (2007) explain the institutional divide between the democratic Central and Southeastern Europe and the autocratic CIS by potential membership in the EU. Similarly, Pop-Eleches (2007) argues that post-communist democratization has been faster and less prone to reversals in the countries where for geographic, historical, cultural, and economic reasons the promise of deep integration with Western Europe was the strongest at the outset of the transition. According to Haughton (2007), the EU's 'transformative power' is strongest when deciding to open accession negotiations. The EU's influence is also shown to be stronger in some areas, especially in economic aspects necessary to establish the single market, while it is clearly weaker in other areas like minority protection. Schimmelpfennig (2007) argues that only the credible conditional promise of membership has had the potential to produce compliance with liberal-democratic norms in norm violating transformation countries. According to case studies on Latvia, Slovakia and Turkey, EU democratic conditionality is shown to work through a strategy of "reinforcement by reward" through intergovernmental bargaining. These

arguments are confirmed by Beck and Leaven (2006) who show that EU membership provides an additional positive effect on institutional change in European transition countries. They measure institutional change using the World Bank Governance Indicators (WBGI). However, using the cross country approach adopted by Beck and Leaven would only allow us to include control variables like EU membership one-by-one which creates serious problems of misspecification.

In contrast, only a few studies analyze the impact of the EU on institutional change by means of agreements below a membership perspective. Positive effects of links to the EU may be reached via a variety of channels: by promoting democratic attitudes among citizens, delivering political incentives for elites (in government and in the opposition), fostering domestic power balance shifts in favor of democratic politicians, and the adoption of better democratic governance through incentives for public administration reform (Pop-Eleches 2007). Hence, democracy is promoted by a combination of political conditionality and significant political and economic incentives. Di Tommaso, Raiser, and Weeks (2007) confirm the positive impact of basic agreements between the EU and transition countries which are open to all transition countries. While this finding would allow for some optimism regarding weak incentives provided by the European Neighbourhood Policy (ENP), the paper uses indicators provided by the EBRD for measuring institutional change in terms of economic institutions only. However, the Europeanization strategy of the EU is not restricted to a narrow concept of economic institutions but targets political and legal institutions as well. Therefore, there is some scope for checking the robustness of the result by estimating the impact of basic EU agreements on a broad concept of institutional development as measured by the WBGI.

While this process of EU enlargement figured prominently in the transition literature, NATO membership and enlargement is almost exclusively discussed in terms of regional security (see, e.g., Sandler and Hartley 1999; Andrei and Teodorescu 2005). However, as a strategic response to the end of the Cold War, NATO increasingly moved from being a military alliance towards a political alliance (Fierke and Wiener 1999). NATO enlargement has been primarily driven by the internal challenge to adjust to the new global order and to hold the leading position on security issues in Europe. It can be interpreted as a reaction to Western European intentions to strengthen the Conference on Security and Cooperation in Europe (CSCE) in order to limit NATO hegemony and was perceived by the Clinton administration as being closely bound up with the maintenance of US leadership within NATO (Holbrooke 1995). NATO enlargement started only after the NATO-Russia agreement

in 1997 which opened the door for Eastern European countries (Asmus 2002) but outpaced EU enlargement in some cases (Table 1).

Notwithstanding this competition between EU and NATO, the entry procedures share some common elements. NATO also invited groups of countries to enter negotiations and, most importantly, NATO also has developed a concept for enlargement which formulates preconditions for entry. As a procedure for nations wishing to join the NATO, a mechanism called Membership Action Plan (MAP) was approved at NATO's Washington Summit of 1999. A country's participation in MAP entails the annual presentation of reports concerning its progress on five different measures. Four measures on organization, resources, safeguards, and compatibility – much like the *Acquis Communautaire* in the case of the EU – focus on the potential of (military) cooperation between the accession country and NATO. The fifth and possibly the most important measure in terms of incentives for institutional development demands the willingness to settle international, ethnic or external territorial disputes by peaceful means, to commit to the rule of law and human rights, and to allow for democratic control of the armed forces and the military budget.

Although there is a clear bias towards military and security issues, NATO accession requires a minimum of institutional standards, the “carrot” in this case being regional security rather than economic cooperation. While this aspect may gain in importance over the next decades, it remains an open question whether or not NATO, until now, has been able to support institutional development as a kind of by-product of its enlargement. The few studies analyzing this aspect rely on qualitative assessment and come to opposite conclusions (e.g., Epstein 2005; Reiter 2001). An empirical test of the hypothesis that NATO accession has a positive impact on institutional development which is comparable to the impact of EU accession is still missing.

While the incentives provided by the NATO have not been considered in the quantitative literature, those offered by the WTO have been analyzed. Beyond its direct impact on import liberalization and macroeconomic policies, WTO membership helps to reduce incentives for corruption by providing countries with powerful institutional checks and balances in the international economic sphere. To become a WTO member, a set of institutions and policies has to be implemented. Consequently, these WTO-conform institutions and policies contribute to the openness of the economy, enhance the transparency and promote the rule of law (Bacchetta and Drabek 2004). The institutional quality is even affected long before the actual accession to the WTO in the process of the preparation and separate negotiations

between countries. However, as reported in Busse et al. (2007), empirical studies largely fail to show a significant impact once trade flows are controlled for. In addition, Table 1 reveals that some transition countries became WTO members during communism which would imply that membership may be unrelated to comprehensive institutional reforms.

All in all, especially EU and NATO membership and cooperation can be expected to exert a positive influence on institutional quality in transition countries through conditional offers of membership or cooperation. The resulting economic or security-related benefits increase the payoff of institutional reforms. When the incentives are effective, institutional change will be triggered or accelerated as the benefits increase for given costs of institutional reform.

However, external factors influencing benefits or costs of institutional reforms in transition countries go well beyond official relations with well-governed countries. These factors can be described as proximity (to the West) and comprise trade, capital flows, and cultural norms. Proximity in terms of cultural norms is assumed to provide a significant path-dependency concerning institutional development, since the culture of a society adjusts only slowly to changing economic circumstances. This is owed to a high persistence of cultural norms and human belief systems (Di Tommaso, Raiser, and Weeks 2007; Kitschelt 2001; La Porta, Shleifer and Vishny 1999; Guiso, Sapienza and Zingales 2006). Trade and capital inflows go hand in hand with interaction with outside economic agents. This interaction with the outside world lowers the costs of adapting institutions similar to those of the trading partners. In line with this claim, several studies have shown that more open economies tend to have better institutions (see, e.g., Wei 2002; Islam and Montenegro 2002; IMF 2005).

Development aid and foreign direct investment (FDI) can also be expected to foster institutional change. Apart from the interaction with outside agents, aid is increasingly conditioned on the institutional quality in the receiving country (Claessens, Cassimon and van Campenhout 2007; Thiele, Nunnenkamp and Dreher 2007). FDI inflows may also help to promote better institutions in CIS countries when foreign firms export their (possibly) superior governance standards. This positive effect is, however, not necessarily observed. Focusing on corruption, Hellmann, Jones and Kaufmann (2002) show that foreign firms are more likely than domestic firms to pay kickbacks for public procurement contracts. Also aid may have detrimental effects: By expanding a government's external resources, foreign aid can weaken institutions by reducing accountability. Rajan and Subramanian (2007) provide some evidence for the relevance of this effect. They show that industries which are more sensitive to bad governance grow at a slower pace in countries that receive more aid. Hence,



different to EU and NATO membership and cultural proximity, capital inflows may also provide disincentive effects due to the related resource inflows. Addressing the impact of official development assistance on governance over time and across countries, Busse and Gröning (2009) find empirical evidence that increasing aid has to be treated with caution, as rent seeking behavior and moral hazard problems of high development assistance levels could lead to a postponement of governance improving reforms.

In contrast to external determinants, internal economic and political determinants of institutional change in transition countries have been analyzed to a considerable extent. The modernization hypothesis states that the benefit of institutions is increasing with the level of economic development (see, e.g., Lipset 1959; Acemoglu et al. 2007). Similarly, the Grand Transition view sees development as a process where steady economic growth causes transition of all institutions (Paldam and Gundlach 2008). However, economic shocks and macroeconomic performance may also be an important determinant of political transition (Acemoglu and Robinson 2006; Paldam 2002). These shocks give rise to a window of opportunity for citizens to contest power, as the cost of fighting ruling autocratic regimes is relatively low. When citizens reject policy changes that are easy to renege upon once the window of opportunity closes, autocratic regimes must make democratic concessions to avoid costly repression (see also Brückner and Ciccone 2008). Hence, the net benefits from the perspective of ruling elites in cooperating countries depend on the macroeconomic conditions.

Apart from economic performance, economic policy is also important for driving institutional change especially in transition countries. When economic policy reform and institutional reform are complements, economic policy can lower the cost of institutional change. Looking at the typical sequencing of reforms supports the view that economic liberalization, privatization, and the granting of basic political rights usually preceded institutional reforms. Examples include the establishment of a competition authority and stronger financial market supervision. Hence, policy can to some extent break path-dependence through economic and political liberalization (Di Tommaso, Raiser and Weeks 2007; Havrylyshyn 2006).

Turning to political factors, several channels of influence can be identified. There is a sizeable strand of the literature arguing that initial conditions determine future outcomes (Fish 1997; Kopstein and Reilly 2000), possibly by causing costs of change to be prohibitively high. A related argument is provided by Beck and Laeven (2006). They argue that political entrenchment and reliance on natural resources critically determines whether the behavior of

the ruling elite and thus the transition process is catalytic or extractive. The adverse effect of resource abundance on institutional quality due to disincentives to reform has been confirmed by other studies, especially for accessible resources with easy appropriation of rents through state institutions (in general cf. Isham et. al. 2005; Sala-i-Martin and Subramanian 2003; Collier and Hoeffler 2004; Ploeg 2007; for CIS countries, cf. Auty 2001).

All in all, there is established evidence on the importance of internal determinants of institutional change. Path-dependency, especially with respect to the political factors, and conflicting evidence, especially with respect to the economic factors, may explain why institutional reforms often face considerable internal resistance. External factors which, so far, have not been considered in a comprehensive way in empirical analyses can be assumed to impact on internal decision making. Hence, in order to avoid misspecified models of institutional change, this requires a careful consideration of external determinants: membership and proximity to EU and NATO should matter for institutional change in transition countries.

### **3. Empirical model**

#### **3.1. Data**

We assess our hypothesis by analyzing the development of institutional characteristics in a sample of 25 transition economies between 1996 and 2008. Institutional quality is measured by the World Bank Governance Indicators (WBGI). The WBGI are calculated as the sum of six single indicators as provided by the World Bank (Kaufmann et al. 2007).<sup>1</sup> We argue that this is the most comprehensive measure of institutional development which is available for international comparisons and, at the same time, reflects the comprehensive conditions established for EU accession by the Copenhagen criteria. The WBGI include indicators on voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Hence, the aggregate indicator combines legislative, administrative and legal aspects as well as political and economic institutions. At the same time, the calculation of the indices considers measurement errors and provides standardized measures. By using the WBGI, we follow Beck and Laeven (2006) but we will consider a full model in terms of external and internal determinants of institutional change. In this respect, we modify and extend the framework of Di Tommaso,

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<sup>1</sup> The indicator is available at a two-year frequency from 1996 to 2002 and at an annual frequency from 2002 onwards.

Raiser, and Weeks (2007). The fact that key variables are comparable allows us to compare our findings about institutional change to those in the earlier literature.

A variety of explanatory variables are employed not only in order to assess their effects but also to proxy for important and otherwise unobserved country characteristics. The explanatory variables used in an extended model and their data sources are listed in Table 2. The variables are grouped into external and internal determinants according to the arguments outlined in Section 2.

- Table 2 about here -

According to Section 2, integration into international organizations and proximity variables are included as external factors. EU SAA is a dummy variable which takes the value of one in a country for each year after Balkan countries signed a Stabilization and Association Agreement (SAA). Di Tommaso et al. (2007) used an integration variable which also considers Partnership and Cooperation Agreements (PCA). In 1996, however, these agreements have been concluded with almost all sample countries, the exception being basically Central Asian countries. Hence, any variation in an extended basic agreement variable would result from the variation in SAA's (see also Table 1). In addition, SAA different to PCA have a clear membership perspective for cooperating countries.

We measure incentives stemming from a NATO membership perspective by a NATO MAP dummy variable indicating whether a Membership Action Plan (MAP) has been established for a country. For the first CEECs entering NATO, the invitation for membership negotiations are treated as a substitute for a formal MAP process. In addition, a WTO dummy indicates WTO membership. Here, negotiations are rather lengthy and the outcome is highly negotiable depending on the position of the accession country. As an indication for this, some CEECs have been members of WTO even before transition.

Proximity is measured along several dimensions. These include cultural proximity, i.e. a WESTERN dummy indicating whether a country belongs to the western Christian community, and measures of economic proximity to the rest of the world. Religious affiliation is only an imperfect measure of culture in general and we interpret this variable rather as a proxy for a complex set of initial conditions. Economic proximity is measured by three year moving averages of FDI and AID inflows. When interaction with developed countries generates institutional spillovers, we would expect that these variables capture them. AID and

FDI have, a priori, more ambiguous effects as they represent resource inflows which might ease the need of institutional reform or give incentives for rent-seeking behavior.<sup>2</sup>

Internal economic determinants include indicators of economic policy as well as economic performance. In line with Di Tommaso, Raiser, and Weeks (2007) we measure economic policy using the LIBERALIZATION indicator provided by the EBRD. Di Tommaso et al. found a positive impact on an aggregated EBRD indicator on institutions and we expect a similar impact on a broader concept of institutions not constructed by the EBRD itself. Economic performance is measured by moving averages of GROWTH of real GDP and INFLATION. Growth should matter if demand for institutions increases with income and GROWTH. Inflation is taken as a proxy for macroeconomic stability in a country and thus reflects the window of opportunity for regime changes. Together with INITIAL INCOME, measured in per capita terms, inflation can also be expected to proxy for country effects.

Internal political factors are chosen to reflect both incentives for policy as well as initial conditions. Initial political conditions, as well as initial income, are important if institutional development is path dependent. COHESION reflects whether the first post-communist government was relatively independent of the former communist party. INITIAL RIGHTS measures the individual political rights and TENSIONS is a dummy accounting for conflicts at the start of transition from communism.

While the above variables refer mostly to opportunities to build good institutions, the incentives for agents to do so are also important. When the economy disposes of sizeable amounts of extractable resources, political agents might have incentives to build institutions in a way which facilitates the extraction of a rent from these resources for them instead of ensuring good governance. We model this by introducing a variable measuring ENDOWMENT.

### 3.2. Methodological issues

For our analysis we rely on a standard linear regression model of the following type:

$$y_{it} = \mathbf{x}_{it}'\boldsymbol{\beta} + \mu_i + \nu_t + \varepsilon_{it} \quad i = 1, 2, \dots, N \quad ; \quad 1 \leq t \leq T,$$

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<sup>2</sup> We consider geographical proximity, as reflected in the physical distance from the country's capital to Brussels, only in robustness checks because this variable is usually used as a catch-all for external influences which we model in detail. In the same vein, solely for the sake of completeness we did include exports in the regressions which we present here because a potential impact of openness or trade liberalization is included by either cooperation or liberalization variables.

$$E(\mu_i) = E(\nu_t) = E(\varepsilon_{it}) = E(\mu_i \nu_t) = E(\mu_i \varepsilon_{it}) = E(\nu_t \varepsilon_{it}) = 0.$$

Here  $i$  indexes countries and  $t$  represents years, whereas  $\mathbf{x}_{it}$  is a column vector of explanatory variables. Notice that it is not assumed that the variables are observed in consecutive years.

In the context of institutional change, a simple regression analysis faces several difficulties. Heterogeneous country characteristics which cannot be completely observed and measured persist over time and affect both our explanatory as well as the dependent variable. Formally, this means that  $E(\mu_i \mathbf{x}_{it}) \neq \mathbf{0}$  for some  $i$ . This problem is traditionally addressed by two different strategies. In POLS regressions several measures of country characteristics which can be expected to account for several dimensions of relevant country characteristics may be introduced. In addition, country-fixed effects (FE) may account for any country specific explanations.<sup>3</sup>

It is important to highlight, however, that the fixed effects (FE) estimator identifies the vector  $\boldsymbol{\beta}$  of marginal effects of the explanatory variables using only the variation of institutions within each country over time. While institutions are, in general, highly persistent and changes within countries are only relevant over longer time horizons, for our sample of transition countries, this variation within countries is also meaningful: transition countries experienced a unique period of accelerated and comprehensive institutional change which took only ten to fifteen years to completion (Kornai 2006). This would justify analyzing time horizons of one decade.

The FE regressions also give unbiased estimates of the time-varying variables. However, applying this procedure in our context of (almost) time-invariant variables is not undisputed. The first drawback of this procedure is well-known: Since the within-groups estimator ignores the between-groups variance, estimates for the time-invariant explanatory variables cannot be provided. Only very recently, researchers have started discussing a second drawback: Although coefficients are provided for variables that are hardly changing over time, the FE absorbs most of their explanatory power and estimates of these variables become inefficient (Plümper and Troeger, 2007). A third problem of identifying causal effects of the explanatory variables is related to the possible endogeneity of membership in institutions.

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<sup>3</sup> Put differently, we transform our variables to deviations from country means to eliminate the time-invariant country-specific error term by introducing the country fixed effects. A first difference transformation, as used in Arellano-Bond and other GMM panel estimators, is not possible because the dependent variable is not observed for consecutive years. We also refrain from using two-step GMM for IV estimation and feasible GLS estimators (“random effects”) because of the small size of the cross-section in our dataset.

Theory suggests that economic development and policies might possibly be affected by institutional development beyond country fixed effects:  $E(\varepsilon_{it} \mathbf{x}_{it}) \neq \mathbf{0}$  for some  $i, t$ . In both POLS and FE estimations, it is generally possible to account for potential endogeneity by instrumentation. However, as argued above, all economic variables may suffer from endogeneity problems.<sup>4</sup> In addition, perspective membership in EU, NATO, or WTO may also be the result of foregoing institutional change rather than determining institutional change. According to Schimmelpfennig and Scholz (2008), the political science literature on EU's Neighborhood Europeanization comes to the conclusion that early stages of integration can be treated as exogenous with respect to the convergence of institutional quality (see also, e.g., Di Tommaso et al. 2007). This would also apply to NATO where, however, only few papers analyze pre-accession effects. Nevertheless, we consider the fact that there might be a statistical endogeneity problem with our membership variables.

We apply the Hausman-Taylor instrumental variable estimator (HT, Hausman and Taylor 1981) in order to overcome the disadvantage of the above described FE estimator. The latter does not take into account potential endogeneity of right hand side (RHS) variables and, hence, not allow the estimation of the coefficient of the time invariant regressors in a proper fashion.<sup>5</sup> The HT estimator allows for an estimation of time-invariant and almost time-invariant variables because it is an instrumental variable panel estimator capable to correct for any bias caused by the mentioned reverse causality (Belke and Spies 2008).

In the single-equation model where the two-dimensional and the individual-specific RHS variables are partly correlated with and partly uncorrelated with the individual specific effects  $\mu_i$  it is assumed that the  $(\mathbf{1} \times k_1)$ -vector  $\mathbf{x}_{1,it}$  contains exogenous, time varying variables, uncorrelated with  $\mu_i$  and  $\varepsilon_{it}$ , the  $(\mathbf{1} \times k_2)$ -vector  $\mathbf{x}_{2,it}$  contains endogenous, time varying variables that are correlated with  $\mu_i$  though not correlated with  $\varepsilon_{it}$ , the  $(\mathbf{1} \times g_1)$ -vector  $\mathbf{z}_{1,it}$  contains exogenous, time invariant variables that are uncorrelated with  $\mu_i$  and  $\varepsilon_{it}$  and the

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<sup>4</sup> The variable GROWTH is also treated as possibly endogenous because it is a well established fact in the literature that institutional development affects economic growth positively, although one might doubt if this effect would show up at the short time horizon of this study. Since countries with especially good institutions might attract more FDI and more (or less) AID, these variables are included in the information set as endogenous time varying variables. LIBERALIZATION is treated as possibly endogenous, too, since policies and institutional reform might go hand in hand.

<sup>5</sup> We also did instrumentation exercises using lagged variables of the potentially endogenous variables as instrument. These regressions show that lags of 2 and 3 years work quite well based on a variety of test statistics. However, longer time lags for instrumentation may be necessary to confirm these results. Unfortunately, the rather short time span of our dataset does not allow for time lags of 5 or 10 years respectively.

$(1 \times g_2)$ -vector  $\mathbf{z}_{2,it}$  containing endogenous, time invariant variables that are correlated with  $\mu_i$  and orthogonal to  $\varepsilon_{it}$ . Accordingly, the Hausman-Taylor model can be written as

$$y_{it} = x_{1,it}\beta_1 + x_{2,it}\beta_2 + z_{1,i}\delta_1 + z_{2,i}\delta_2 + \mu_i + \varepsilon_{it} \quad i = 1, 2, \dots, N; \quad 1 < t < T$$

where  $\mu_i$  is  $\text{IID}(0, \sigma_\mu^2)$  and  $\varepsilon_{it}$   $\text{IID}(0, \sigma_\varepsilon^2)$ . As an orderly least squares estimation of the model is inconsistent and biased and the FE estimator, although consistent, using the within transformation effaces the individual level effects, Hausman and Taylor (1981) suggest an instrumental variable estimator which performs a two-stage-least-square estimation utilizing  $\mathbf{x}_1$ ,  $\mathbf{z}_1$  and the within transformation matrix for  $\mathbf{y}$ . In order to identify the model there are at least as many time-varying exogenous regressors needed as there are individual time-invariant endogenous regressors, i.e.  $(k_1 \geq g_2)$ .

#### 4. Empirical results

Our results based on the HT estimator are provided in Table 3. Appendix Tables A1 and A2 contain the background POLS and FE estimators for the purpose of comparison. We allow for possible endogeneity of the integration variables - NATO MAP, EU\_SAA and WTO – and the economic variables - GROWTH, INFLATION, AID, FDI, and LIBERALIZATION. Hence, the selection of variables included in  $\mathbf{x}_{2,it}$  and  $\mathbf{z}_{2,it}$  is the following:  $\mathbf{x}_{2,it}$ , i.e. the vector of endogenous time-varying variables, includes GROWTH, FDI, AID, INFLATION and LIBERALIZATION.  $\mathbf{z}_{2,it}$ , the vector of time-invariant endogenous variables, incorporates NATOMAP, WTO and EU SAA.

- Table 3 about here -

Because HT regressions are restricted with respect to the number of potentially endogenous variables we run a basic model including the integration variables as well as LIBERALIZATION and WESTERN (columns 1 and 2). We then proceed by adding, alternatively, the (other) economic variables (columns 3 and 4) and the political variables (columns 5 to 7). As can be seen in Table 3, the overall Wald-test suggests that the respective model variations have explanatory power.

As a first result, the HT regressions confirm a quite strong impact of both SAA and MAP on institutional development which is also evident in POLS and FE regressions. To the contrary, WTO which showed some significance in POLS is insignificant if potential endogeneity problems are taken into account. Countries which have the corresponding relationship with EU have a WBGI which is about 0.9 points higher compared to otherwise

identical countries without these relationships, roughly one quarter of a standard deviation of WBGI. The *ceteris paribus* effect of NATO MAP is somewhat lower, between 0.5 and 0.7. The implication of these estimates is that international organizations like the NATO and the EU can exert a positive influence on institutional development when they establish tighter relationships with these countries.

Second, the other two variables of our basic model – LIBERALIZATION and WESTERN also reveal a strong positive impact on institutional quality throughout all regressions. Being close to Western Europe in terms of geography, culture, and income level pre-determines to a large extent the level of institutional quality. To the contrary, however, countries may well break path-dependency by economic reform and openness which has clear pay-offs terms of better institutions.

Third, economic variables except AID remain insignificant if endogeneity is properly treated by the HT estimator. While FDI and TRADE do not show any significance POLS estimation would have led to the conclusion that trade is positive and growth negative for institution building. In the case of growth, this would have implied that lower growth induced a higher reform effort by countries taking advantage of a window of opportunity for change. In the case of aid inflow, our regression point to strong negative effect of resource inflows on governance indicators which fits to the hypothesis that these inflows lead to a lower reform effort or provide opportunities for autocratic and corrupt governments to live on rents.

Finally, the political variables except ENDOWMENT show the expected sign, i.e., at the start of transition, tensions and conflicts were bad and a strong position of democratic parties was good for building good institutions. The coefficient of endowment with natural resources is negative but not significant in our country sample.

Looking at the size of coefficients, it is evident that path-dependency clearly matters. Belonging to the Western community implies a higher level of institutional quality. However, economic liberalization as well as prospective membership both EU and NATO clearly matter. This result proves to be robust across all specifications shown in Table 3 as well as over alternative estimation methods as shown by the comparison between Table 3 and Appendix Tables 1 and 2. Overall, EU SAA and NATO MAP explain about 25 percent of the standard deviation of the dependent variable.

Figure 1 takes a look at the development of the dependent variables in countries which entered EU SAA or NATO MAP. Several groups of countries can be distinguished in this respect:



- Figure 1 about here -

- The early entries Czech Republic, Hungary, and Poland do not reveal any positive development during the NATO accession or after. However, these countries already revealed comparatively good levels of institutional quality in the mid-1990s. The same applies to Slovenia which entered two years later.
- The Baltic countries Lithuania and Latvia clearly improved their institutional quality after entering MAP. Estonia established an exceptional case in the whole sample of countries because it started from a high level in the mid-1990s but continued a strong positive trend possibly supported by MAP but also revealing a strong internal willingness to achieve convergence.
- In other CEECs, Slovakia and Romania are cases which demonstrate an improved trend towards better institutions following entry into MAP. In Bulgaria, convergence continued - although at a lower pace than during the period 1996-98.
- Possibly the Balkan countries provide the most interesting cases because they benefitted from both EU SAA and NATO MAP. In Croatia, both SAA and MAP were concluded in the midst of a positive development which began to flatten, a development which was not strongly affected by either SAA or MAP. Albania is a case where entry into MAP happened long before entry into SAA. As can be seen, the trend for institutional development actually became positive during MAP and SAA possibly strengthened this trend although it came rather later in our observation period. As in Albania, SAA followed MAP in the Republic of Macedonia. Here, the negative trend ended around entry into MAP and became positive after entry into SAA.

Overall, this descriptive picture together with the estimation results shown in Table 3 suggest that especially NATO MAP but also EU SAA may have had a positive impact on institutional development in our sample countries.

## **5. Summary and policy conclusions**

Focusing on a sample of 25 transition countries, this paper provides a comprehensive analysis of potential drivers of institutional change as measured by the World Bank Governance Indicators (WBGI). These indicators measure a broad range of institutional features ranging from voice and accountability to control of corruption. We exploit the fact that institution building in transition countries is a unique historic experiment which allows detecting institutional change not only between countries but also over time within one or two

decades. We employ a Hausman-Taylor estimator which takes into account the potential endogeneity of a range of explanatory and in some cases only slowly moving variables. The latter include dummy variables which account for the entry of transition countries into cooperation agreements with EU or NATO leading to membership conditioned on fulfilling specified criteria.

One novel finding of this study is that, in addition to EU accession conditionality, the perspective of NATO membership has also influenced institutional development positively. Measuring this influence by the existence of a NATO Membership Action Plan for a country, we find strong evidence for this positive influence. Using different estimators which account for unobserved heterogeneity and endogeneity we find a sizeable positive and significant coefficient across many different model specifications. While, to our knowledge, this influence of NATO has been neglected in the existing literature, we offer an explanation of this influence similar to that used in earlier papers for the EU membership perspective. Via one of its five criteria for membership, the NATO induces countries to commit to the rule of law and human rights, the democratic control of the armed forces, and to settle conflicts peacefully. In contrast to the EU and other international organizations, NATO is able to offer regional and international security as a big “carrot” in return for institutional development and is, therefore, able to provide additional incentives beyond economic incentives.

Nevertheless, integration into the EU clearly matters. As in Di Tommaso et al. (2007), even basic relationships of a country with the EU improve its institutional quality beyond merely economic institutions. The study also confirms some results of previous studies which might serve as an additional successful robustness check. Belonging to the Western community and initial (political) conditions matters for institutional development and is best understood as a fact that can be taken as evidence for path-dependency as in Beck and Laeven (2006). Economic policy also matters, as shown by the robust and positive influence of economic liberalization which is measured by the EBRD index. Hence, in line with Havrylyshyn (2006), economic policies allow to break path-dependency even when focusing on a rather broad concept of institutional development.

All in all, our results imply that internal and external actors can influence institutional development in transition countries positively. Internal actors can break path-dependencies through policy reforms, whereas both EU and NATO can have a positive impact through cooperation agreements that lead to membership as is the case with SAAs and MAPs. At the same time, it supports the argument that NATO may provide significant additional incentives

for good governance. Given the importance of regional security, the latter result may even figure more prominently in the future.

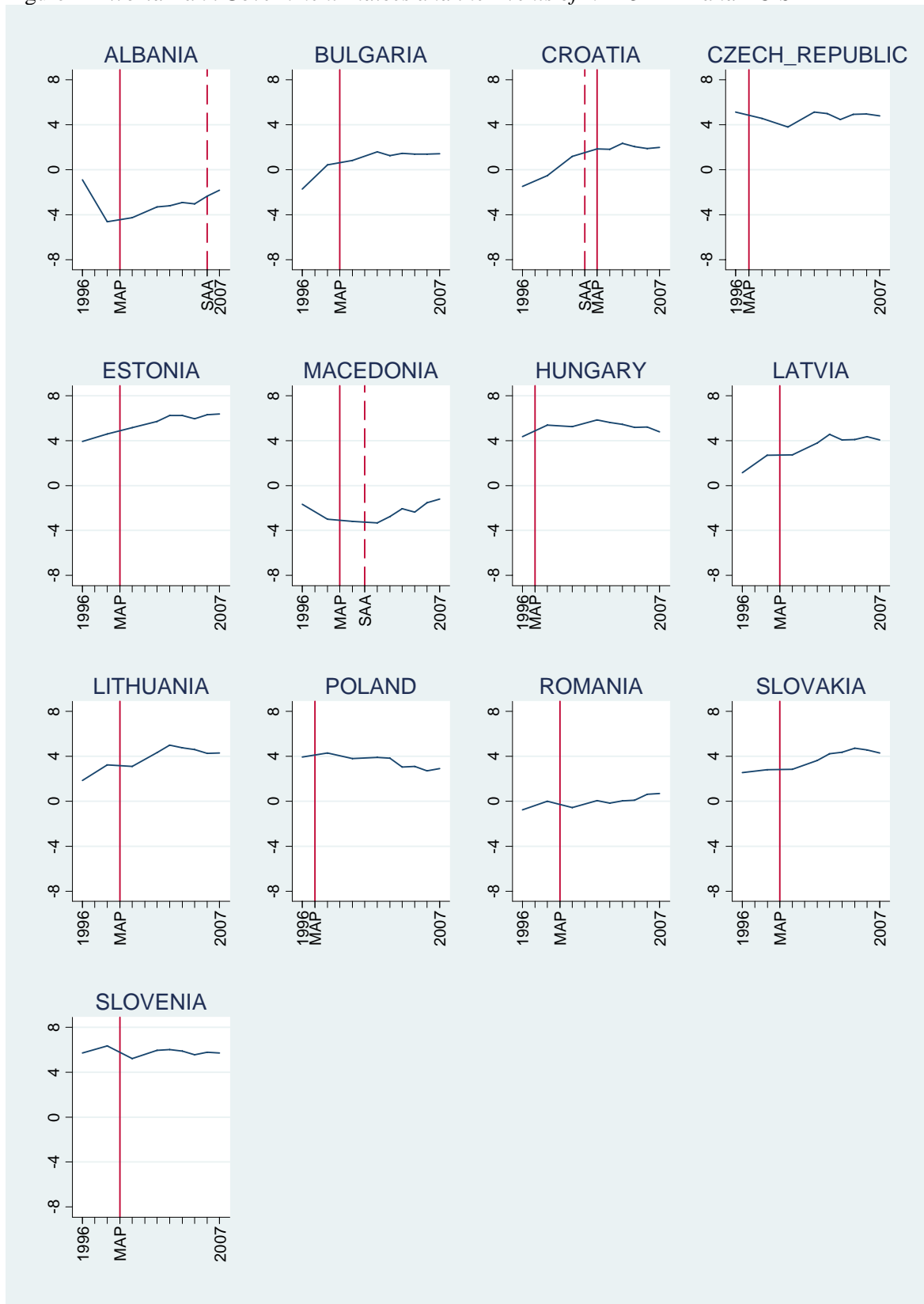
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Figure 1 – World Bank Government Indices and the Events of NATO MAP and EU SAA



Source: See Table 2; own calculations.

Table 1 - Integration of Transition Countries into EU, WTO and NATO

Group	Country	EU								WTO	NATO	
		Membership	Accession Negotiations End	Accession Negotiations Begin	Membership Strong Notice	EA / EAAP* / SAA Signed	ENPAP / 4CS / EA* Agreed	PCA / CA in Force	PCA / CA Signed	Membership	Membership	MAP
EU 2004	Czech Republic	2004	2002	1998	1997	1995	1991			1947	1999	1997
	Estonia	2004	2002	1998	1997	1995				1999	2004	1999
	Hungary	2004	2002	1998	1997	1995	1991			1973	1999	1997
	Latvia	2004	2002	2000	1997	1995				1999	2004	1999
	Lithuania	2004	2002	2000	1997	1995				2001	2004	1999
	Poland	2004	2002	1998	1997	1995	1991			1967	1999	1997
	Slovak Republic	2004	2002	2000	1997	1995	1991			1947	2004	1999
Slovenia	2004	2002	1998	1997	1996			1993	1993	1994	2004	1999
EU 2007	Bulgaria	2007	2004	2000	1997	1995	1993			1996	2004	1999
	Romania	2007	2004	2000	1997	1995	1993			1971	2004	1999
Western Balkan	Albania			2005	2003	2006			1992	1992	2000	1999
	Croatia				2003	2001					2000	2002
EU South East Neighbours	Moldova				2003	2001					2003	1999
	Ukraine								1998	1997		
CIS Southern Caucasus	Armenia								2005	1998	1994	2001
	Azerbaijan								2005	1998	1994	2008
	Georgia								2006	1999	1996	2003
EU North East Neighbours	Russia								2006	1999	1996	2000
	Belarus								2003	1997	1994	
CIS Central Asia	Kazakhstan									**	1995	
	Kyrgyz Republic									1999	1995	
	Tajikistan									***	2004	
	Turkmenistan									****	1998	
	Uzbekistan									1999	1996	

**Definitions:** PCA - Partnership and Cooperation Agreement; CA - Cooperation Agreement; ENPAP - European Neighbourhood Policy Action Plan; 4CS - Four Common Spaces; EA - Europe Agreement; EAAP - Europe Agreement Additional Protocol; SAA - Stabilization and Association Agreement; Membership Strong Notice - the Luxembourg Summit of 1997 for Central and East European countries or the Thessaloniki Summit of 2003 for Western Balkans; MAP - Membership Action Plan.

**Notes:** \* European Agreements signed in 1991 with Poland, Hungary and CSFR did not involve any membership perspective and, therefore, could not be evaluated in the same way as European Agreements signed after 1993. European Agreements of 1991 were updated in 1995 with Europe Agreement Additional Protocol that includes membership perspective. — \*\* PCA was ratified by Belarus 04/05/1995, ratification not completed by EU. — \*\*\* PCA was Tajikistan 06/12/2005, ratification not completed by EU. — \*\*\*\* PCA was ratified by Turkmenistan 11/02/2004, ratification not completed by EU.

**Sources:** EU Agreements Database ([http://europa.eu/abc/history/1990-1999/index\\_en.htm](http://europa.eu/abc/history/1990-1999/index_en.htm); own summary); WTO ([http://www.wto.org/english/thewto\\_e/acc\\_e/completeacc\\_e.htm](http://www.wto.org/english/thewto_e/acc_e/completeacc_e.htm)); NATO ([www.nato.int](http://www.nato.int)); <http://www.bits.de/frames/databasesd.htm>)

Table 2 - Overview of variable specifications and data sources for extended model

Variable	Description	Source
<b>Dependent Variable</b>		
WBGI	Sum of the six WBGI sub-indices (voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption)	World Bank Governance Indicators website
<b>Explanatory Variables - External Factors</b>		
<i>Membership</i>		
EU SAA	Dummy variable which equals 1 in the year if Stabilization and Association Agreement has been signed the previous year	EU Agreement Database
NATO MAP	Dummy variable which equals 1 starting in the year a membership action plan was established.	NATO website
WTO	Dummy variable which equals 1 for all years following WTO or GATT accession.	WTO website
<i>Proximity</i>		
AID	Official Development Assistance and Official Aid (Share of GDP), average over current and past two years.	World Development Indicators (WDI)
FDI	Foreign Direct Investment, Net Inflows (Share of GDP), average over current and past two years.	WDI
WESTERN	Dominance of protestant or catholic Christianity (=1, otherwise 0).	CIA World Factbook
<b>Explanatory Variables - Internal Economic Factors</b>		
<i>Economic Policy</i>		
LIBERALIZATION	Average of price liberalization and trade and foreign exchange liberalization, running from 1 to 4,66.	European Bank for Reconstruction and Development (EBRD)
<i>Economic Performance</i>		
GROWTH	Growth GDP, geometric average over current and past two years.	WDI
INFLATION	Inflation, consumer prices (annual %), geometric average over current and past two years.	WDI
TRADE	Total Trade with EU 15 in percent of GDP.	IMF, Direction of Trade Statistics
<b>Explanatory Variables - Internal Political Factors</b>		
<i>Opportunities</i>		
COHESION	(absolute value of largest non communist party vote) - (ex KP vote in first post-transition election).	EBRD Transition Report (1999)
INITIAL RIGHTS	individual political rights, measured from 7 to 1 (highest)	Freedom House
TENSIONS	Binary variable: conflict yes or not.	Heidelberger Institut für Internationale Konfliktforschung; <a href="http://www.hiik.de/start/index.html">http://www.hiik.de/start/index.html</a>
ENDOWMENT	Resource reserves, dummy variable, rich=2, moderate=1, poor=0.	de Melo (2001); Auty (2006)



Table 3 - Determinants of institutional change in transition countries, 1996-2008

WBGJ	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EU SAA	0.937*** (2.57)	0.886** (2.37)	0.815** (2.21)	0.785** (2.12)	0.898** (2.47)	0.947*** (2.66)	0.937*** (2.63)
NATO MAP	0.570** (2.53)	0.528** (2.23)	0.638*** (2.71)	0.684*** (2.73)	0.576** (2.55)	0.572** (2.53)	0.574** (2.53)
LIBERALIZATION	1.108*** (3.35)	1.050*** (3.05)	0.924*** (2.70)	0.859** (2.43)	1.091*** (3.29)	1.100*** (3.31)	1.086*** (3.25)
WTO		0.147 (0.59)	-0.105 (-0.42)	-0.124 (-0.49)			
AID			-0.152*** (-3.75)	-0.149*** (-3.70)			
FDI			0.010 (0.81)	0.014 (1.04)			
TRADE				-0.005 (-0.54)			
GROWTH				0.017 (0.99)			
INFLATION				-0.001 (-0.89)			
WESTERN	6.603*** (9.28)	6.625*** (9.25)	6.312*** (8.36)	6.536*** (7.40)	6.663*** (10.11)	5.501*** (8.22)	5.434*** (8.04)
TENSIONS					-1.924** (-2.15)	-2.210*** (-2.86)	-2.233*** (-2.90)
COHESION						0.016*** (2.76)	0.015*** (2.60)
ENDOWMENT							-0.210 (-0.57)
CONSTANT	-8.421*** (-6.74)	-8.251*** (-6.44)	-7.147*** (-5.44)	-6.919*** (-5.17)	-6.670*** (-4.41)	-5.778 (-3.64)	-5.577*** (-3.40)
$\sigma_u^2$	1.541778	1.5473998	1.6305429	1.8248923	1.3986026	1.1747764	1.1636504
$\sigma_e^2$	.83930231	.83828233	.81542639	.80307807	.83930231	.83930231	.83930231
$\rho$	.77140141	.7731094	.79993919	.83775914	.73522882	.66206816	.65779706
Wald chi-squared	206.50	204.87	204.22	181.09	244.94	344.75	349.41

Note: z-statistics in parenthesis. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10.

Table A.1 – *Institutional change in transition countries – POLS estimator, 1996-2008*

WBGI	(1)	(2)	(3)	(4)	(5)	(6)	(7)
EU_D_SAA	1.468 *** (4.30)	1.375 *** (3.94)	0.847 ** (2.57)	0.801 *** (2.65)	3.758 *** (7.32)	3.178 *** (7.36)	3.144 *** (7.25)
NATO MAP	1.048 *** (3.17)	0.917 *** (2.64)	0.660 ** (2.06)	-0.111 (-0.36)	2.156 *** (4.13)	2.143 *** (4.92)	2.100 *** (4.79)
LIBERALIZATION	1.997 *** (11.47)	1.875 *** (9.40)	2.381 *** (11.82)	2.140 *** (11.36)	2.375 *** (8.60)	1.044 *** (3.92)	1.007 *** (3.73)
WTO		0.421 (1.25)	0.629 ** (2.02)	0.657 ** (2.35)			
AID			-0.227 *** (-6.87)	-0.209 *** (-6.98)			
FDI			0.003 (0.13)	-0.015 (-0.87)			
TRADE				0.048 *** (7.13)			
GROWTH				-0.042 ** (-2.12)			
INFLATION				-0.002 (-1.55)			
WESTERN	5.403 *** (18.51)	5.411 *** (18.56)	4.756 *** (16.48)	3.708 *** (12.45)			
TENSIONS					-0.471 (-0.91)	-1.556 *** (-3.50)	-1.600 *** (-3.58)
COHESION						0.032 *** (9.88)	0.031 *** (9.51)
ENDOWMENT							-0.197 (-0.92)
CONSTANT	-11.840 *** (-18.91)	-11.517 *** (-17.03)	-12.392 *** (-19.52)	-12.086 *** (-19.09)	-12.363 *** (-11.04)	-5.492 *** (-4.72)	-5.184 *** (-4.28)
Number of obs	225	225	220	220	225	225	225
F-Statistic	445.52	357.65	303.64	271.16	141.43	182.42	152.05

Note: z-statistics in parenthesis. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10.

Table A.2 - Institutional change in transition countries – FE estimator, 1996-2008

WBG	(1)	(2)	(3)
EU_D_SAA	0.697 * (1.80)	0.605 (1.55)	0.609 (1.57)
NATO MAP	0.597 *** (2.64)	0.655 *** (2.77)	0.778 *** (3.07)
LIBERALIZATION	1.024 *** (3.07)	0.843 ** (2.44)	0.720 ** (2.00)
WTO		-0.083 (-0.33)	-0.136 (-0.54)
AID		-0.151 *** (-3.73)	-0.146 *** (-3.60)
FDI		0.011 (0.81)	0.018 (1.26)
TRADE			-0.014 (-1.43)
GROWTH			0.027 (1.48)
INFLATION			-0.001 (-0.65)
WESTERN			
TENSIONS			
COHESION			
ENDOWMENT			
CONSTANT	-5.629 *** (-4.45)	-4.500 *** (-3.41)	-3.752 *** (-2.78)
$\sigma_u$	3.696	3.582	3.913
$\sigma_e$	0.846	0.828	0.822
$\rho$	0.950	0.949	0.958
Number of obs	225	220	220
F-Statistic (u_i=0)	22.41	17.97	12.94

Note: t-statistics in parenthesis. \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.10.