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Kiel Working Paper No. 1421 | May 2008**; revision: May, 21.**

Which Membership Matters? External vs. Internal Determinants of Institutional Change in Transition Countries*

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Abstract:

This paper analyses external determinants of 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 2005. Both EU and NATO are shown to provide positive incentives which allows for some optimism about the effectiveness of conditional offers of increased cooperation. Hence, regional security offered by NATO provides additional incentives for good governance. In addition, path-dependency determined by the availability of natural resources and cultural norms may be overcome by economic liberalization while foreing aid seems to reinforce negative resource effects.

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

JEL-Classification: F15, F20, F50, P20, P30, O19

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* This paper is an output from the ENEPO project on EU Eastern Neighbourhood: Economc Potential and Future Development financed by the EU in the Sixth Framework Programme. The authors thank the participants of the second ENEPO workshop in Warsaw on April, 11 – 12, 2007 for helpful comments. We would also like to thank Hanno Heitmann for his technical assistance.

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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 known as "Copenhagen 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).

However, after the Eastern enlargement has been completed with the recent accession of Bulgaria and Romania in 2007, the "carrot" of membership for pushing institutional development in transition countries is at present exclusively reserved for the Western Balkan states. For CIS as well as for Mediterranean countries, European Neighborhood Policy (ENP) foresees support from the EU conditional on performance according to governance criteria. Nevertheless, compared to the big carrot of membership, ENP incentives may be too limited in order support internal determinants of institutional reform (Vinhas de Souza et al. 2006).

So far, the empirical evidence on external determinants of institutional change in transtition countries is rather limited. Of couse, the impact of the EU has received some attention but recent papers focus mainly on internal economic, political, and cultural factors (Di Tommaso, Raiser, and Weeks 2007; Beck and Laeven 2006) treating an EU influence rather as a control variable than as a main determinant of institutional change. In addition, papers analyzing the impact of trade relations include WTO membership (see, e.g., Bacchetta and Drabek 2004) but the accession to NATO as a potential determinant of institutional change is 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.

Hence, this paper fills an empirical gap by analysing external determinants of institutional change in transition countries with a special focus on accession to EU, NATO, and WTO. We are able to show that for our panel sample of transition countries, incentives provided by both EU and NATO clearly matter for institutional development and that the impact of NATO is especially robust across alternative specifications of our empirical model. 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 operationalisation of the theoretical concepts into measurable variables in section 3. Section 4 presents the empirical findings and section 5 concludes.

2. Determinants of Institutional Change

2.1. External Determinants – Membership and Proximity

The international community has long been using economic and other incentives to bring about institutional change, such as embargoes in order to enforce human rights. Different

actors or international organizations can offer different incentives (or threats). Their common element, however, is that they try to increase the net benefits of a set of institutions which is seen as desireable by the international organization. Conditional offers of admission to an organization or at least increased cooperation are one way to implement these incentives. In addition, close cooperation may allow to import better institutions from the cooperation partner or, at least, reduce the costs of institutional reforms (Way and Levitsky 2007).

With respect to potential membership as an incentive for institutional reform, we focus on three international organizations which we expect to be of special relevance for European and CIS transition countries: the EU, the NATO, and the WTO. Concerning the incentives provided by the EU, 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 Laeven (2006) who show that a dummy variable for 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) which reflect the comprehensive view of institutional development of the EU. However, the cross-country approach adopted by Beck and Laeven only allows to include control variables like EU membership one-by-one, thus possibly creating serious problems of misspecification.

In addition, the EU's 'transformative power' is strongest when deciding to open accession negotiations (Haughton 2007). 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 (see also Way and Levitsky 2007). Some studies also analyze the impact of the EU on institutional change by means of agreements below a membership perspective. These agreements include promotion of democratic attitudes among citizens, political incentives for elites (in government and in the opposition), and promotion of better democratic governance through incentives for public administration reform (Pop-Eleches 2007). Hence, democracy is promoted by a combination of political conditionality with 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.[1]

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 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 intensions 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

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[1] While the results of Di Tommaso, Raiser, and Weeks (2007) suggest the importance of incentives provided by EU, they use indicators from 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 it is desireable to verify their results for a broader set of indicators of institutional quality.

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 similarities. 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 and to commit to the rule of law and human rights, and democratic control of the armed forces.

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 enlargement. The few studies analysing 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.

In contrast, incentives for institution building provided by WTO are considered in the literature. 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.

The three different international organizations can, a priori, be expected to exert a similar positive influence on institutional quality in transition countries through conditional offers of membership or cooperation. The resulting economic or security-related benefit increase the benefit through better institutions. When the incentives are effective, institutional change will be triggered or accelerated as the benefits increase with given costs of institutional reform. But other factors also influence benefits or adjustment costs resulting from the reform, or both.

We consider the external factors behind the net benefit of institutions first. 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 Tommasso, Raiser, and Weeks 2007; Kitschelt 2001; La Porta, Shleifer, and Vishny 1999). 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; Busse et al. 2007).

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.

2.2. Internal Determinants – Economics and Politics

Focussing on internal determinants of institutional change, we distinguish between economic and political factors. The modernization hypothesis, one traditional theory, 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 benefit for the current elite to reform depends on the macroeconomic conditions.

Apart from economic performance, also economic policy is important for driving institutional change. 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 this: economic liberalization and privatization, as well as the granting of basic political rights and liberties, usually preceeded institutional reforms such as 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; Guiso et al. 2006; Zweynert 2006), 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; Murshed, 2004; Collier and Hoeffler 2004; Ploeg 2007; for CIS countries, cf. Auty, 1997, 2001).

All in all, there is established evidence on the importance of internal determinants of institutional change. Since only few of these factors can be influenced by policy-makers a careful analysis of incentives provided by international organizations is warranted. Entry into these organizations and access to their benefits is conditioned on some institutional progress and may explain some of the unexplained variation in standard models of institutional change.

3. Empirical Model

3.1. Data and Methodological Issues

In order to assess our hypotheses, we analyze the development of institutional characteristics in a sample of 25 transition economies between 1996 and 2005. While institutions are often regarded as highly persistent and the analysis of institutional change therefore generally relies on much longer time horizons, we expect to find significant changes in our sample. Transition countries experienced a period of accelerated institutional change which is unique because it was comprehensive and nevertheless took only ten to fifteen years to completion (Kornai 2006) This justifies to analyze time horizons of one decade. Indeed, looking at the empirical data, which is described in detail in the next subsection, confirms this claim. While the data for the entire sample of countries is generated in order to have a zero mean for each year, the sample of transition countries moves up significantly in the distribution of institutional performance in the sample period, as shown by the change in the institutional quality in Table 2. Apart from this significant variation relative to the rest of the world, also within the sample of transition countries there is important variation during the sample period, which is shown by the little mass on the main diagonal of the transition probability matrix in Table 2.

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

$$y_{it} = \mathbf{x}_{it}'\boldsymbol{\beta} + \mu_i + \upsilon_t + \varepsilon_{it} \qquad i = 1, 2, \ldots, N \qquad 1 \leq t \leq T,$$

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

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. We address this problem through two different strategies. First, we introduce several measures of country characteristics which can be expected to account for several dimensions of relevant country characteristics. To the extent that this approximation is good enough, the problem is solved. Second, we introduce country

fixed effects.[2] In either strategy we account for additional time fixed effects by including time dummy variables.

It is important to highlight 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. For our sample of transition countries, this variation within countries is also meaningful for institutional changes. In contrast, the other estimator pools all observations and weights variation within countries over time and between countries equally. When the regressors proxy only imperfectly for country specific factors, the estimator is possibly biased. This estimator is subsequently labeled Pooled OLS (POLS) estimator. We report the POLS estimates because they incorporate more information when the approximation of the fixed country effects is good enough to reduce the bias to a minimum.[3]

Another problem of identifying causal effects of the explanatory variables is posed by endogeneity. 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. We account for this possibility by instrumenting possibly endogenous variables with their own lagged values. Given the persistence of institutions, we use lags of two and more periods to reduce problems due to autocorrelated disturbances. This instrumental variables (IV) approach is combined with both the standard pooled and the fixed effects estimator described above.[4]

As is standard in the literature, we use a Hansen test to assess the validity of our assumption, i.e. that the instruments and regressors which are not instrumented are exogenous. Apart from instrument validity, instrument relevance should be assessed. A growing literature has pointed out the problem of weak instruments, i.e. when instruments are not relevant due to a very low correlation with the instrumented variables. In this case, the inconsistency of the OLS estimators would prevail. However, test statistics for the case of multiple instrumented variables are to our knowledge not available for the case of heteroskedastic disturbances. In our context, weak instruments are at most likely to be a problem in the case of FE IV estimation when the cross-sectional variation cannot be exploited for instrumentation. We address the problem by testing for underidentification (i.e. the case of zero correlation) using the Kleiberger-Paap (2006) ranktest statistic. Additionally, we use a test for joint significance of the instrumented variables which is robust to weak instruments. This test statistic was developed by Stock and Wright (2000). Similar to the Hansen test, this test statistic is based on the objective function minimized by the IV estimator, but evaluates it when the coefficients are zero (cf. also Stock et al. 2002).[5]

For assessing hypotheses about our regression model, it is necessary to model the covariance matrix of the combined disturbance term, $\mu_i + \upsilon_t + \varepsilon_{it}$. We generally work with a

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2 More generally, 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.

3 In a larger sample we would have employed the efficient GLS (random effects) estimator and used a Hausman test to assess the hypothesis of inconsistency of the pooled estimator formally. Given the small sample size, we refrained from doing so.

4 The estimation is implemented using the –ivreg2– and –xtivreg2– commands for Stata (Baum et al., 2007; Schaffer, 2007).

5 More precisely, the test assesses the joint Null hypothesis of significance of of the instrumented variables and the validity of the overidentifying restrictions. Thus a failure to reject the Null is only a necessary condition for insiginificance.

covariance matrix calculated using disturbances clustered by countries. In contrast to simple heteroskedasticity consistent estimators for the covariance matrix, this allows for autocorrelation of the residuals.[6] Additionally, for fixed effects models the standard heteroskedasticity-consistent covariance matrix is inconsistent (Stock and Watson 2006).[7]

Given the relatively small dataset, only a limited number of control variables can be employed. In principle, restricting the number of regressors could introduce omitted variables bias. To control for this possibility, we estimate first a relatively large model which includes more regressors than might be warranted for such a small sample.[8] The large model should therefore only be viewed as tentative to identify the most important determinants of institutional change. No strict general-to-specific modeling strategy is applied since models which nest all alternatives would be excessively large. The preferred models are more parsimonious and include only those regressors which were significant in both the standard least squares and IV specifications of the pooled or FE extended models. Then various extensions of the preferred models are estimated to show the robustness of coefficient estimates and their significance to various alternative specifications.

3.2. Variable Specification

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).[9] 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 Kopenhagen 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 (Schweickert 2004). 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, 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 coefficients but also to proxy for important and otherwise unobserved country characteristics as previously described. All explanatory variables and their data sources are listed in Table 3. The explanatory variables are grouped into external and internal political determinants according to the arguments outlined in Section 2.

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6 Tests of the Null hypotheses of homoskedasticity and absence of autocorrelation in the residuals could always be rejected at standard levels of significance and are not reported.

7 To achieve consistency of the estimated covariance matrix, we need to restrict our exogenous regressors and exogenous instruments in the case of IV estimators to less than the number of countries. This is only a problem for IV estimation and we therefore address this problem by using the option to partial the effects of time dummies out before estimating the model of interest.

8 Additionally, this introduces problems of consistency of standard errors.

9 The indicator is available at a two-year frequency from 1996 to 2000 and at an annual frequency from 2002 onwards.

According to Section 2, integration into international organizations and proximity variables are included as external factors. Integration into the EU, NATO, and WTO is considered. For the EU we distinguish between various groups of countries (for details, see Table 1). The first group includes those countries with a membership perspective.[10] EU BASIC is a dummy variable which takes the value of one in a country for each year after a Stabilization and Assocication Agreement (SSA) has been signed or a Partnership and Cooperation Agreement (PCA) came into force. This definition resembles that by Di Tommaso, Raiser and Weeks (2007). Additionally, two dummy variables are used denoting all the years following a strong notice of membership and the begin of accession negotiations. Further steps of EU integration have to be seen as clearly endogenous since they are the outcome of Copenhagen convergence criteria. This is different in the context of NATO and WTO agreements. Two NATO variables are considered: a NATO MEMBER dummy indicating membership and a NATO MAP dummy variable indicating whether a Membership Action Plan (MAP) has been established for a country. A WTO dummy indicates WTO membership. Since offers of membership and preceding steps of integration into international organizations are often made conditional on the attainment of institutional standards, it can be expected that these variables exert an important positive influence on institutional quality. Additionally, they should have positive effects through peer pressure and by facilitating learning from best practice.

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 in general and developed countries in particular. 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. This is measured by three year moving averages of FDI and AID inflows as well as exports to non-transition countries. 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.[11]

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

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[10] The countries not eligible for membership are Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

[11] We do not consider geographical proximity, as reflected in the physical distance from the country's capital to Brussels because this variable is usually used as a catch-all for external influences which we model in detail. In the same vein, we did not 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. A list of the robustness checks confirmed these arguments. A summary of these results is provided in Table 7.

measures the individual political rights and TENSIONS is a dummy accounting for conflicts at the start of transition from communism.[12]

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 as well as a variable measuring MINERAL EXPORTS.

We always allow for possible endogeneity of the following variables: NATO MAP, NATO MEMBER, and WTO, given that countries which have a low institutional quality are also less likely to become members of these institutions.[13] GROWTH and INCOME INDEX are instrumented 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, also these variables are instrumented. LIBERALIZATION is treated as possibly endogenous, too, since policies and institutional reform might go hand in hand.

4. Empirical Results

We start by discussing an extended model of institutional quality from which we then derive our preferred specification. This specification is then assessed in several robustness checks.

4.1. Basic Specifications

Estimates for the extended model are shown in Table 4. For all IV estimates in this table, as well as in all following IV estimates, lags of two and three years were used to instrument for endogenous variables. In columns (2) and (4) the p-value of the Hansen test statistic shows that the Null of exogeneity of the explanatory variables and the instruments can be maintained. The Kleibergen-Paap and Stock and Wright tests show, respectively, that the Null of underidentication and of insignificance of the instrumented variables can be rejected at least at the 10% level. Wald tests for all explanatory variables except the time dummies show in each case that the models have significant explanatory power. The R-squared statistics show a generally satisfactory fit of the different models, although it is somewhat lower for the

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[12] These initial political conditions may also be measured by a dummy variable which measures if the country participated in an intensive violent conflict in a given year.

[13] As in Tommaso, Raiser, and Weeks (2007), we do not treat EU BASIC as endogenous. While this assumption can be maintained according to Hansen tests of overidentifying restrictions, nearly all results are robust to relaxing this assumption. In addition, agreements with the EU considered in this dummy variable do not demand institutional reform as a precondition but rather promise benefits in exchange of some progress of institutional reform. Basically, the same arguments apply to NATO MAP. However, we instrument in order to show the robustness of our results.

FE IV specification due tothe partialling out of the time dummies which causes the R-squared statistic not to be bounded by [0,1] any longer.[14]

Given that the models pass necessary specification checks, it is sensible to assess whether the results are economically meaningful. Starting at the bottom of the table and focusing on the pooled estimates in columns (1) and (2), all political determinants have the expected sign, with the exception of the completely insignificant INITIAL RIGHTS variable. An increase in ENDOWMENT by from zero to one causes WBGI to decline by roughly one point. An increase of one standard deviation in the share of non-communist parties in the first election significantly increases the WBGI by roughly 0.23 to 0.26 points.[15] The incidence of TENSIONS decreases institutional quality by more than one point. When controlling for fixed effects, these variables drop out due to a lack of variation over time.[16] All in all, the variables describing political determinants seem to succeed in accounting for significant variation in the institutional quality.

Focusing on the economic determinants, i.e. the rows from LIBERALIZATION to INITIAL INCOME, shows mostly economically sensible, but partially insignificant results. The effect of LIBERALIZATION is positive and significant in the estimates using pooled least squares, while one of the fixed effects estimates of its coefficient is insignificant. GROWTH is significant only when not instrumented, while INFLATION is significant only when we do not control for country fixed effects. Higher inflation is associated with an improvement of institutional quality which lends support to the hypothesis that macroeconomic instability opens a window of opportunity for reforms. INITIAL INCOME has no significant effect in our short-run sample.

Two of the three variables measuring proximity have a significant influence. While FDI is always insignificant, AID is significant and exerts a negative influence. However, this effect shows up only in the pooled estimates. When taking the negative sign literally, we would interpret this as tentative evidence that the negative incentives for political reform through development aid outweigh in our sample possible positive effects. WESTERN, as the variable which measures cultural proximity, has a huge positive effect on WBGI revealing a significant degree of path-dependency.

Two of the three external determinants show up as significant. EU BASIC and NATO MAP exert a positive influence according to the models in columns (1) and (2): Countries which have the corresponding relationship with EU have a WBGI which is 1.2-1.4 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 higher, between 1.8-2.0 points or two fifths of a WBGI standard deviation. 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. Introducing country fixed effects shows, however, that only the effect of NATO remains significant. WTO is not significant.

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[14] Notice that because of the large number of regressors, only heteroskedasticity robust standard errors are reported whereas subsequent estimates use clustered standard errors which allow for autocorrelation. Clustered standard errors could be reported for POLS and FE estimates, but for the sake of comparability with the IV estimates in both cases only heteroskedasticity robust standard errors are provided. Generally, one would expect the resulting standard errors to be excessively small and the t-statistics therefore to be excessively large. The Null of no significance would thus be rejected too frequently. Since the results in Table 4 are presented to select a reduced model, this bias seems acceptable.

[15] This corresponds to an elasticity of WBGI with respect to to COHESION of roughly 0.05.

[16] It is possible, however, to control for some of these effects using time-varying variables capturing resources and conflicts at the cost of a smaller sample. An overview of the results is given below as a robustness check.

The effects of EU BASIC do not hold up when introducing fixed effects, while the effect of NATO remains robust, although it decreases slightly in magnitude, as shown in columns (3) and (4). The effects of LIBERALIZATION and NATO MAP increase in size when they are instrumented. While this would be counterintuitive in the case of univariate IV estimation with a conjectured positive effect of institutions on these variables, this does not hold in general in a multivariate regression. Additionally, the increase in size might be due to the fact that the instrumentation with lags implies that the instrumented variables pick up a the accumulated dynamic effect of these variables instead of the static and possible inconsistent static effects of the simple POLS and FE specifications.

For the following estimations, we drop all regressors that fail to be significant in at least one set of IV estimates in Table 4. While this would imply retaining INFLATION, this variable is clearly insignificant in the reduced model. Since we aim at a small baseline model as a benchmark for robustness checks, we also drop INFLATION and report the estimates only as an additional robustness check in columns (3) and (4) as well as (9) and (10) of Table 5. The resulting baseline estimates are shown in columns (1) and (2) as well as (7) and (8) in the same table. For the sake of comparability with the earlier estimates and across all extensions, all estimation samples are restricted to the sample used in Table 4.[17]

As before, the estimates satisfy necessary specification tests, with the FE IV model passing the Hansen test of instrument validity by a wider margin than the pooled IV model. Also as before, the R-squared values for the FE IV are problematic because of the partialling out of the time dummies. The tests for underidentification and insignificance of the instrumented variables reject their Null hypotheses in all specifications. All coefficient estimates are of similar magnitude and of the same sign as in the extended model, implying economically meaningful results. Now, however, LIBERALIZATION is also significant in the FE IV specification. The coefficient of LIBERALIZATION therefore suggests that an improvement in economic policies also has positive effects on a broader set of institutions. This effect is not only due to countries having better policies also having better institutions, i.e. unobserved heterogeneity, or better institutions causing better policies, i.e. endogeneity. The same holds true for NATO MAP, which is the only other variable which is significant across all specifications.

4.2. Robustness checks

We then assess the robustness of these findings by modeling a range of extensions, basically testing variables which have been omitted in the baseline model one-by-one as well as testing cross terms involving AID and FDI.[18] However, most coefficients of additional variables are insignificant with few exceptions. Possibly, the negative impact of AID is more or less important in countries which already have another source of extractable income and thereby an incentive for rent-seeking behavior. The results in columns (5) and (6) in Table 5 suggest that the negative effect of the two types of extractable income, i.e. AID and ENDOWMENT, seem to reinforce each other, as shown by the fact that the individual coefficients as well as the cross-term have a negative sign.

Another robustness check is the inclusion of additional variables describing the accession process. Looking at Table 1 reveals that NATO Membership Action Plans (MAP) were established roughly at the same time as many countries received the strong notice of membership by the EU and began accession negotiations, which can be expected to have

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[17] Table A1 compares the results for the baseline model with the restricted and the unrestricted sample.

[18] See Table A3 for a list of all specifications and additional variables.

given strong incentives for institutional reform. We test whether NATO has significant additional explanatory power by including two dummy variables for the additional steps of EU integration into the baseline model. Table 6 reveals that the results change little. LIBERALIZATION looses its significance in the FE IV specification, but is otherwise robust. The assumption of exogeneity of instruments can again be maintained and the test statistics indicate the relevance of the instruments and instrumented variables. Columns (5) and (6) as well as (11) and (12) indicate that EU BEGIN NEGOTIATIONS has the conjectured positive incentive effect, although it is not present in the FE IV specification. EU STRONG NOTICE has, counterintuitively, a negative sign or is insignificant. In all cases, however, NATO MAP remains highly significant with an effect of slightly lower magnitude than in the baseline model. EU BASIC only remains significant when not accounting for fixed effects.

We additionally test whether our measurement of the NATO variable might be flawed by including a variable measuring actual membership. Columns (3) and (4) as well as (9) and (10) give the results for the extension of the baseline model by NATO MEMBER. It shows that using IV estimators, NATO MEMBER actually performs better than NATO MAP, with the latter have a practically zero coefficient in the pooled IV specification. In the case of FE IV, both NATO variables become insignificant. The Kleibergen-Paap and Stock and Wright tests suggest problems of instrumenting the regressors. However, performing a standard Wald test on their joint significance clearly rejects the Null of joint insignificance.[19] Additionally, when we do not instrument NATO MAP both variables have positive coefficients but only NATO MAP is highly significant in all specifications (Table A2 in the appendix). The Kleibergen-Paap test of underidentifaction in the FE IV specification indicates now a drastic problem of underidentification. This suggests that the instrument for NATO MAP is strong, whereas we lack a satisfactory instrument for NATO MEMBER in our sample. We offer the following interpretation of these results: the introduction of a MAP induces a dynamic process of institutional improvement which takes several years to completion. When NATO MEMBER is introduced additionally, this variable captures some of the dynamic improvements triggered by the MAP.

In addition, the effect of NATO MAP is robust in almost all models discussed so far and several other extensions summarized in Table A3. The Hansen test statistic allows to maintain the Null of instrument validity for all models reported in the table. However, when introducing fixed effects and FDI as well as interaction terms with aid, we have problems of underidentification, whereas most Pooled IV estimates pass the specification tests. Compared to the baseline estimates in row (1), in all but two of the 18 extensions the coefficient is robust across the four different estimators. The exception is the case of the inclusion of NATO MEMBER and of the inclusion of FDI with an income-cross term. In the latter case, however, the additional regressors are insignificant and when introduced one by one do not alter the results. Apart from possible problems of identifying causal effects of other variables due to unobserved heterogeneity across countries, there might be an additional economic reason for this robustness of NATO MAP: the incentives of increased regional and international security might weigh more than the largely economic incentives offered by the EU.

Finally, the plausibility of the results is assessed by looking at the estimates of the baseline model when applied to the six disaggregated WBGI subindices (Table 7). When doing so, the instrumented variables NATO MAP, AID and LIBERALIZATION are, according to the Stock and Wright test, often jointly insignificant, whereas the models otherwise pass all specification test. These results are, nevertheless, generally not due to a weak influence of the NATO variable. NATO matters for four of the six indicators. To demonstrate this, we

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[19] The p-value in the case of pooled IV is 0.00 and in the case of FE IV 0.03.

estimate an even more parsimonious model for the subindices, dropping AID and LIBERALIZATION. Then, as before, the relevance of NATO MAP is confirmed for the following subindices: Control of corruption, Governance effectiveness, Rule of Law, and Voice and accountability.[20] This is now confirmed by the Stock and Wright test statistics. For two of these, we can, nevertheless, not maintain the Null of exogeneity of the instruments when introducing fixed effects. This is probably caused by the omission of otherwise relevant regressors. Taking all estimates together, there is evidence that NATO MAP exerts its positive effects on WBGI primarily through its effect on Control of corruption, Governance effectiveness, Rule of Law, and Voice and accountability, whereas the evidence for other explanatory variables is less clear.

5. Summary and Policy Conclusions

Focusing on a sample of 25 transition countries, this paper provides a comprehensive analysis of potential internal and external determinants of institutional change as measured by the World Bank Governance Indicators (WBGI). As argued in the introduction, institution building in transition countries is a unique historic experiment which allows to detect institutional change not only between countries but also over time within one or two decades. This experiment could, of course, not repeated in other countries which does not allow to generalize our results on a one-to-one basis. However, the basic transmissions may matter for other countries at least at the margin.

The novel finding of this study is that also the perspective of NATO membership has 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 the 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. Different 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 even below the level of a membership perspective. As in Di Tommaso et al. (2007), basic relationships of a country with the EU improve its institutional quality beyond merely economic institutions. This result is, however, not robust to a control for country fixed effects. We find instead suggestive evidence, in line with Haughton (2007), that the begin of accession negotiations might have a stronger and more robust effect. Available natural resources and capital inflows are found to exert an insignificant or negative influence. We also find that country-fixed effects as well as variables characterizing initial (political) conditions matter for institutional development can be taken as evidence of path-dependency as in Beck and Laeven (2006). However, economic policy also matters, as shown by the relatively robust and positive influence of economic liberalization as measured by the EBRD index. Hence, in line with Havrylyshyn (2006),

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[20] Exploiting the correlation of errors across the six models, we are also able to test the Null of joint insignificance of specific variables for all six subindices in the simple POLS and FE specifications. Then, the hypotheses of joint insignificance of all explanatory variables and that of NATO MAP can be rejected with p-values of virtually zero. For EU BASIC, this is only the case in the POLS specification.

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 and membership agreements. This allows for some optimism about the effectiveness of European Neighbourhood Policies and 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.

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

		EU								WTO	NATO	
Group	*Country*											
		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				2003	2006		1992	1992	2000		1999
	Croatia			2005	2003	2001				2000		2002
	Macedonia				2003	2001		1998	1997	2003		1999
EU South East Neighbours	Moldova						2005	1998	1994	2001		
	Ukraine						2005	1998	1994	2008		
CIS Southern Caucasus	Armenia						2006	1999	1996	2003		
	Azerbaijan						2006	1999	1996			
	Georgia						2006	1999	1996	2000		
EU North East Neighbours	Russia						2003	1997	1994			
	Belarus							**	1995			
CIS Central Asia	Kazakhstan							1999	1995			
	Kyrgyz Republic							1999	1995	1998		
	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; own summary); WTO (http://www.wto.org/english/thewto_e/acc_e/completeacc_e.htm); NATO (www.nato.int; http://www.bits.de/frames/databasesd.htm)

Table 2: Variation of the explanatory variable in transition countries, 1996 – 2005

	Variable	Countries	Mean	Std. Dev.	Min	Max
Transition countries	WBGI	175	- 1.25	4.63	-11.40	6.34
	Change in WBGI	25	0.61	2.05	- 3.04	4.70
Other countries	WBGI	1148	- 0.01	5.75	-13.62	11.78
	Change in WBGI	127	- 0.22	1.93	- 8.07	5.30

Note: For variable definitions compare Table 3. The mean of the "Change in WBGI" is significantly different from the mean for the other countries (the heteroskedasticity-robust p-value is 0.06). The Change in WBGI is calculated as the total change from 1996 to 2005.

Transition probability matrix

Quartile 1996	Quartile 2005			
	1	2	3	4
1	71.4	28.6	-	-
2	33.3	33.3	33.3	-
3	-	33.3	50.0	16.7
4	-	-	16.7	83.3

Note: The table is based on the WBGI variable (see Table 3). It gives the probability that a transition country which had a WBGI value in the respective quartile in 1996 moved to a different quartile in 2005.

Table 3: Overview of variable specifications and data sources

Variable	Description	Source
Dependent Variable		
WBGI	Sum of the 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)	WBGI; http://www.govindicators.org
Explanatory Variables - External Factors		
Membership		
EU BEGIN NEGOTIATIONS	Dummy variable equals 1 starting in the year accession negotiations with the EU began.	EU Agreement Database
EU BASIC	Dummy Variable, equals 1 for "potential members" if SAA ratified in the previous year or for other countries if PCA in force since previous year. Potential members are all countries except: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.	EU Agreement Database
EU STRONG NOTICE	Dummy variable equals 1 starting in the year in which the country received a strong notice of membership by the EU.	EU Agreement Database
NATO MAP	Dummy variable equals 1 starting in the year a membership action plan was established.	NATO; www.nato.int; http://www.bits.de/frames/databasesd.htm
NATO MEMBER	Dummy variable equals 1 starting in the year of NATO accession.	same
WTO	Dummy variable equals 1 for all years following WTO or GATT accession.	WTO; http://www.wto.org/english/thewto_e/acc e/completeacc e.htm
Proximity		
AID	Official Development Assistance and Official Aid (Share of GDP), average over current and past two years.	WDI; http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=136
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; https://www.cia.gov/library/publications/the-world-factbook/
Explanatory Variables - Economic Factors		
Economic Policy		
LIBERALIZATION	Average of price liberalization and trade and foreign exchange liberalization. running from 1 to 4,66.	EBRD; http://www.ebrd.com/country/sector/econo/stats/tic.xls
Economic Performance		
GROWTH	Growth GDP, geometric average over current and past two years.	WDI
INITIAL INCOME	GDP per capita at PPP	WDI
INFLATION	Inflation, consumer prices (annual %), geometric average over current and past two years.	WDI
Explanatory Variables - Political Factors		
Opportunities		
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; http://www.hiik.de/start/index.html
Incentives		
ENDOWMENT	Resource reserves, dummy variable, rich=2, moderate=1, poor=0.	de Melo (2001); Auty (2006)
MINERAL EXPORTS	Weighted average of fuel exports and ores and metals exports (% of merchandise exports), 3 year moving average. The relative weight of ore and metal exports equals 2.75; a restriction which could not be rejected in F-tests in several models.	WDI

Table 4: Determinants of Institutional Development in Transition Countries, 1996 – 2005

	(1) POLS	(2) Pooled IV	(3) FE	(4) FE IV
EU BASIC	1.162 ***	1.350 ***	-0.289	0.109
	(4.44)	(4.17)	(-0.92)	(0.24)
NATO MAP	1.752 ***	2.028 ***	1.422 ***	1.883 ***
	(6.20)	(4.22)	(5.88)	(3.68)
WTO	0.145	-0.853	0.398	-0.510
	(0.43)	(-1.21)	(1.36)	(-0.78)
FDI	-0.014	-0.023	0.009	0.038
	(-1.24)	(-1.16)	(0.60)	(1.00)
AID	-0.229 ***	-0.194 ***	-0.129	-0.039
	(-4.45)	(-3.32)	(-1.41)	(-0.23)
LIBERALIZATION	1.968 ***	2.205 ***	0.766 *	1.090
	(8.23)	(6.30)	(1.66)	(0.87)
GROWTH	0.078 **	0.035	0.050 *	0.026
	(2.53)	(0.76)	(1.93)	(0.59)
INFLATION	0.441 **	0.314 *	0.093	-0.036
	(2.50)	(1.67)	(0.65)	(-0.15)
INITIAL INCOME LEVEL	0.000	0.000		
	(1.07)	(1.31)		
WESTERN	3.483 ***	3.912 ***		
	(10.20)	(8.41)		
TENSIONS	-1.166 ***	-1.139 ***		
	(-5.23)	(-4.66)		
INITIAL RIGHTS	-0.026	0.106		
	(-0.22)	(0.69)		
COHESION	0.005 *	0.004 *		
	(1.92)	(1.73)		
ENDOWMENT	-0.966 ***	-1.044 ***		
	(-5.65)	(-4.93)		
R-squared	0.96	0.95	0.45	0.19
adjusted R-squared	0.95	0.95	0.39	-0.11
No. observations	141	141	141	141
Wald test, p-value	0.00	0.00	0.00	0.01
Time dummies	yes	yes	yes	yes
Hansen test, p-value	n/a	0.69	n/a	0.53
Kleibergen-Paap, p-value	n/a	0.00	n/a	0.07
Stock and Wright, p-value	n/a	0.00	n/a	0.07

Note: Dependent variable: aggregate WBGI; for the definition of variables see Table 3. Heteroskedasticity robust t-statistics in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 5: Baseline model estimates and extensions involving aid and resource endowments, 1996 – 2005

	(1) POLS	(2) Pooled IV	(3) POLS	(4) Pooled IV	(5) POLS	(6) Pooled IV
EU BASIC	1.100 ***	1.152 ***	1.119 ***	1.132 ***	1.045 **	1.093 ***
	(3.01)	(3.01)	(3.05)	(2.93)	(2.79)	(2.78)
NATO MAP	1.705 ***	1.960 ***	1.638 ***	1.792 ***	1.620 ***	1.832 ***
	(5.75)	(3.91)	(5.78)	(3.46)	(5.62)	(3.68)
LIBERALIZATION	1.861 ***	1.801 ***	1.955 ***	1.979 ***	1.925 ***	1.862 ***
	(6.47)	(4.86)	(7.11)	(5.06)	(7.33)	(5.39)
AID	-0.229 ***	-0.212 ***	-0.238 ***	-0.230 ***	-0.213 ***	-0.198 ***
	(-4.77)	(-4.07)	(-5.10)	(-4.27)	(-5.27)	(-4.24)
WESTERN	3.882 ***	3.862 ***	3.912 ***	3.885 ***	3.885 ***	3.875 ***
	(8.13)	(8.44)	(8.50)	(8.83)	(8.40)	(8.87)
TENSIONS	-1.323 ***	-1.354 ***	-1.275 ***	-1.277 ***	-1.219 **	-1.251 **
	(-2.95)	(-3.14)	(-2.89)	(-2.93)	(-2.33)	(-2.56)
COHESION	0.007 **	0.007 **	0.006 *	0.006 **	0.008 ***	0.008 ***
	(2.10)	(2.40)	(2.02)	(2.22)	(3.84)	(4.43)
ENDOWMENT	-0.924 ***	-0.875 ***	-0.947 ***	-0.910 ***	-0.540 **	-0.503 **
	(-5.03)	(-5.37)	(-5.07)	(-5.24)	(-2.28)	(-2.33)
INFLATION			0.237	0.236		
			(1.36)	(1.35)		
ENDOWMENT x AID					-0.174 **	-0.172 ***
					(-2.65)	(-2.79)
R-squared	0.96	0.95	0.96	0.95	0.96	0.96
adjusted R-squared	0.95	0.95	0.95	0.95	0.96	0.95
No. observations	141	141	141	141	141	141
Wald test, p-value	0.00	0.00	0.00	0.00	0.00	0.00
Time dummies	yes	yes	yes	yes	yes	yes
Hansen test, p-value	n/a	0.52	n/a	0.53	n/a	0.42
Kleibergen-Paap, p-value	n/a	0.00	n/a	0.00	n/a	0.00
Stock and Wright, p-value	n/a	0.07	n/a	0.06	n/a	0.05

	(7) FE	(8) FE IV	(9) FE	(10) FE IV	(11) FE	(12) FE IV
EU BASIC	-0.154	0.101	-0.177	0.052	-0.112	0.140
	(-0.50)	(0.24)	(-0.54)	(0.12)	(-0.35)	(0.34)
NATO MAP	1.432 ***	2.302 **	1.464 ***	2.436	1.375 ***	2.350 **
	(4.93)	(2.25)	(5.11)	(2.96)	(5.00)	(2.30)
LIBERALIZATION	1.115 ***	3.110 **	1.065 ***	2.454	1.090 ***	3.088 **
	(3.14)	(2.03)	(2.86)	(1.25)	(2.80)	(2.07)
AID	-0.110	-0.180	-0.101	-0.114	-0.088	-0.185
	(-1.18)	(-1.07)	(-0.97)	(-0.49)	(-0.96)	(-1.12)
INFLATION			-0.086	-0.152		
			(-0.56)	(-0.70)		
ENDOWMENT x AID					-0.385	-0.308
					(-1.55)	(-1.16)
R-squared	0.41	0.08	0.41	0.13	0.44	0.10
adjusted R-squared	0.37	-0.22	0.36	-0.17	0.40	-0.20
No. observations	141	141	141	141	141	141
Wald test, p-value	0.00	0.05	0.00	0.02	0.00	0.02
Time dummies	yes	yes	yes	yes	yes	yes
Hansen test, p-value	n/a	0.93	n/a	0.97	n/a	0.93
Kleibergen-Paap, p-value	n/a	0.04	n/a	0.06	n/a	0.04
Stock and Wright, p-value	n/a	0.07	n/a	0.06	n/a	0.08

Note: Dependent variable: aggregate WBGI; for the definition of variables see Table 3. Heteroskedasticity and autocorrelation robust t-statistics in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 6: Robustness of the baseline estimates with additional NATO and EU variables, 1996 – 2005

	(1) POLS	(2) Pooled IV	(3) POLS	(4) Pooled IV	(5) POLS	(6) Pooled IV
EU BASIC	1.100 ***	1.152 ***	0.977 ***	0.665 *	0.521 ***	0.626 ***
	(3.01)	(3.01)	(3.28)	(1.83)	(2.89)	(3.06)
NATO MAP	1.705 ***	1.960 ***	1.424 ***	0.306	1.000 ***	1.475 ***
	(5.75)	(3.91)	(5.65)	(0.70)	(3.52)	(2.62)
LIBERALIZATION	1.861 ***	1.801 ***	1.919 ***	2.347 ***	1.864 ***	1.849 ***
	(6.47)	(4.86)	(7.07)	(5.72)	(9.67)	(8.65)
AID	-0.229 ***	-0.212 ***	-0.237 ***	-0.291 ***	-0.216 ***	-0.204 ***
	(-4.77)	(-4.07)	(-5.10)	(-4.91)	(-5.44)	(-6.11)
WESTERN	3.882 ***	3.862 ***	3.686 ***	3.706 ***	3.164 ***	3.223 ***
	(8.13)	(8.44)	(7.30)	(7.60)	(9.33)	(10.36)
TENSIONS	-1.323 ***	-1.354 ***	-1.335 ***	-1.212 **	-1.000 ***	-1.074 ***
	(-2.95)	(-3.14)	(-2.84)	(-2.44)	(-3.05)	(-3.28)
COHESION	0.007 **	0.007 **	0.007 **	0.005 *	0.008 **	0.008 ***
	(2.10)	(2.40)	(2.13)	(1.68)	(2.64)	(3.12)
ENDOWMENT	-0.924 ***	-0.875 ***	-0.964 ***	-1.112 ***	-0.797 ***	-0.777 ***
	(-5.03)	(-5.37)	(-5.29)	(-5.75)	(-4.70)	(-5.38)
NATO MEMBER			0.881 **	1.374 ***		
			(2.69)	(3.92)		
EU BEGIN NEGOTIATIONS					(1.92) ***	(1.81) ***
					(7.93)	(6.42)
EU STRONG NOTICE					-0.076	-0.325
					(-0.33)	(-0.93)
R-squared	0.96	0.95	0.96	0.95	0.97	0.96
adjusted R-squared	0.95	0.95	0.95	0.94	0.96	0.96
No. observations	141	141	141	141	141	141
Wald test, p-value	0.00	0.00	0.00	0.00	0.00	0.00
Time dummies	yes	yes	yes	yes	yes	yes
Hansen test, p-value	n/a	0.52	n/a	0.50	n/a	0.42
Kleibergen-Paap, p-value	n/a	0.00	n/a	0.04	n/a	0.00
Stock and Wright, p-value	n/a	0.07	n/a	0.10	n/a	0.03

	(7) FE	(8) FE IV	(9) FE	(10) FE IV	(11) FE	(12) FE IV
EU BASIC	-0.154	0.101	-0.084	0.207	-0.164	-0.029
	(-0.50)	(0.24)	(-0.24)	(0.41)	(-0.56)	(-0.09)
NATO MAP	1.432 ***	2.302 **	1.387 ***	0.251	1.245 ***	2.388 ***
	(4.93)	(2.25)	(4.98)	(0.19)	(4.39)	(3.34)
LIBERALIZATION	1.115 ***	3.110 **	1.256 ***	4.244	1.236 ***	1.785
	(3.14)	(2.03)	(3.19)	(1.55)	(3.54)	(1.55)
AID	-0.110	-0.180	-0.116	-0.094	-0.110	-0.021
	(-1.18)	(-1.07)	(-1.23)	(-0.62)	(-1.13)	(-0.13)
NATO MEMBER			0.293	1.279		
			(1.36)	(1.59)		
EU BEGIN NEGOTIATIONS					(0.86) ***	(0.31)
					(2.93)	(0.73)
EU STRONG NOTICE					-0.448 **	-0.958 ***
					(-2.24)	(-3.53)
R-squared	0.41	0.08	0.42	-0.20	0.46	0.19
adjusted R-squared	0.37	-0.22	0.37	-0.61	0.40	-0.09
No. observations	141	141	141	141	141	141
Wald test, p-value	0.00	0.05	0.00	0.03	0.00	0.00
Time dummies	yes	yes	yes	yes	yes	yes
Hansen test, p-value	n/a	0.93	n/a	0.61	n/a	0.95
Kleibergen-Paap, p-value	n/a	0.04	n/a	0.14	n/a	0.01
Stock and Wright, p-value	n/a	0.07	n/a	0.11	n/a	0.02

Note: Dependent variable: aggregate WBGI; for the definition of variables see Table 3. Heteroskedasticity and autocorrelation robust t-statistics in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 7: Estimates of the baseline model for the disaggregated WBGI indices, 1996 – 2005

	Control of corruption		Governance effectiveness		Political stability & absence of violence		Regulatory quality		Rule of law		Voice and accountability	
	(1) POLS	(2) Pooled IV	(3) POLS	(4) Pooled IV	(5) POLS	(6) Pooled IV	(7) POLS	(8) Pooled IV	(9) POLS	(10) Pooled IV	(11) POLS	(12) Pooled IV
EU BASIC	0.169 ***	0.170 ***	0.200 ***	0.208 ***	0.156	0.142	0.570 ***	0.575 ***	0.294 ***	0.302 ***	0.432 ***	0.452 ***
	(3.37)	(3.51)	(4.19)	(4.48)	(1.47)	(1.38)	(6.21)	(6.48)	(5.93)	(6.26)	(5.57)	(5.94)
NATO MAP	0.320 ***	0.325 ***	0.394 ***	0.460 ***	0.293 ***	0.182	0.572 ***	0.616 ***	0.391 ***	0.456 ***	0.770 ***	0.936 ***
	(6.04)	(3.88)	(7.83)	(5.73)	(2.63)	(1.02)	(5.91)	(4.01)	(7.48)	(5.47)	(9.41)	(7.11)
WESTERN	0.885 ***	0.882 ***	0.878 ***	0.845 ***	1.033 ***	1.088 ***	0.687 ***	0.665 ***	0.806 ***	0.774 ***	0.681 ***	0.599 ***
	(15.81)	(14.05)	(16.51)	(14.07)	(8.74)	(8.18)	(6.71)	(5.79)	(14.58)	(12.41)	(7.88)	(6.07)
TENSIONS	-0.299 ***	-0.298 ***	-0.228 ***	-0.222 ***	-0.680 ***	-0.690 ***	-0.418 ***	-0.414 ***	-0.323 ***	-0.318 ***	-0.259 ***	-0.246 ***
	(-5.07)	(-5.28)	(-4.07)	(-4.12)	(-5.47)	(-5.77)	(-3.88)	(-4.01)	(-5.55)	(-5.67)	(-2.85)	(-2.78)
COHESION	0.001 **	0.001 **	0.003 ***	0.003 ***	0.001	0.001	0.004 ***	0.004 ***	0.002 ***	0.002 ***	0.004 ***	0.004 ***
	(2.30)	(2.40)	(6.70)	(6.91)	(0.83)	(0.91)	(5.24)	(5.46)	(4.87)	(5.02)	(5.79)	(5.88)
ENDOWMENT	-0.123 ***	-0.122 ***	-0.029	-0.025	-0.044	-0.052	-0.151 ***	-0.148 ***	-0.102 ***	-0.097 ***	-0.144 ***	-0.132 ***
	(-4.01)	(-4.14)	(-1.00)	(-0.87)	(-0.68)	(-0.83)	(-2.70)	(-2.74)	(-3.38)	(-3.33)	(-3.04)	(-2.85)
R-squared	0.90	0.89	0.92	0.91	0.70	0.68	0.82	0.81	0.91	0.90	0.87	0.86
adjusted R-squared	0.89	0.88	0.91	0.91	0.68	0.65	0.80	0.79	0.90	0.89	0.86	0.84
No. observations	141	141	141	141	141	141	141	141	141	141	141	141
Wald test, p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Hansen test, p-value	n/a	0.12	n/a	0.83	n/a	0.23	n/a	0.99	n/a	0.85	n/a	0.997
Kleibergen-Paap, p-va	n/a	0.00	n/a	0.00	n/a	0.00	n/a	0.00	n/a	0.00	n/a	0.00
Stock and Wright, p-v	n/a	0.00	n/a	0.00	n/a	0.30	n/a	0.00	n/a	0.00	n/a	0.00

	(13) FE	(14) FE IV	(15) FE	(16) FE IV	(17) FE	(18) FE IV	(19) FE	(20) FE IV	(21) FE	(22) FE IV	(23) FE	(24) FE IV
EU BASIC	0.009	0.038	-0.042	-0.028	-0.210 *	-0.216	0.109	0.106	-0.071 *	-0.065	-0.007	0.028
	(0.17)	(0.62)	(-0.68)	(-0.43)	(-1.96)	(-1.95)	(1.22)	(1.15)	(-1.68)	(-1.47)	(-0.14)	(0.47)
NATO MAP	0.213 ***	0.395 ***	0.234 ***	0.326 **	0.382 ***	0.342	0.076	0.057	0.174 ***	0.214 *	0.217 ***	0.445 ***
	(4.28)	(2.64)	(4.16)	(2.02)	(3.94)	(1.24)	(0.94)	(0.25)	(4.54)	(1.96)	(4.61)	(3.01)
R-squared	0.20	0.04	0.40	0.13	0.22	0.17	0.42	0.02	0.28	0.19	0.30	-0.01
adjusted R-squared	-0.04	-0.25	0.22	-0.14	-0.01	-0.09	0.25	-0.28	0.07	-0.06	0.09	-0.32
No. observations	141	141	141	141	141	141	141	141	141	141	141	141
Wald test, p-value	0.00	0.04	0.00	0.07	0.00	0.02	0.35	0.53	0.00	0.01	0.00	0.01
Time dummies	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Hansen test, p-value	n/a	0.02	n/a	0.24	n/a	0.92	n/a	0.01	n/a	0.08	n/a	0.50
Kleibergen-Paap, p-va	n/a	0.00	n/a	0.00	n/a	0.00	n/a	0.00	n/a	0.00	n/a	0.00
Stock and Wright, p-v	n/a	0.00	n/a	0.09	n/a	0.51	n/a	0.04	n/a	0.05	n/a	0.01

Note: For the definition of variables see Table 3. Heteroskedasticity and autocorrelation robust t-statistics in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

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Table A1: Sample size effects in the baseline model

	(1) POLS	(2) Pooled IV	(3) POLS	(4) Pooled IV
EU BASIC	1.100 ***	1.152 ***	1.127 ***	1.166 ***
	(3.01)	(3.01)	(3.10)	(3.15)
NATO MAP	1.705 ***	1.960 ***	1.798 ***	1.977 ***
	(5.75)	(3.91)	(6.03)	(4.28)
LIBERALIZATION	1.861 ***	1.801 ***	1.620 ***	1.564 ***
	(6.47)	(4.86)	(4.93)	(3.77)
AID	-0.229 ***	-0.212 ***	-0.203 ***	-0.160 **
	(-4.77)	(-4.07)	(-4.21)	(-2.49)
WESTERN	3.882 ***	3.862 ***	4.025 ***	4.205 ***
	(8.13)	(8.44)	(8.44)	(8.06)
TENSIONS	-1.323 ***	-1.354 ***	-1.315 **	-1.406 ***
	(-2.95)	(-3.14)	(-2.74)	(-2.82)
COHESION	0.007 **	0.007 **	0.007 **	0.007 ***
	(2.10)	(2.40)	(2.39)	(2.64)
ENDOWMENT	-0.924 ***	-0.875 ***	-0.844 ***	-0.735 ***
	(-5.03)	(-5.37)	(-4.55)	(-4.13)
R-squared	0.96	0.95	0.95	0.95
adjusted R-squared	0.95	0.95	0.95	0.94
No. observations	141	141	155	155
Wald test, p-value	0.00	0.00	0.00	0.00
Time dummies	yes	yes	yes	yes
Hansen test, p-value	n/a	0.52	n/a	0.50
Kleibergen-Paap, p-value	n/a	0.00	n/a	0.00
Stock and Wright, p-value	n/a	0.07	n/a	0.05

	(5) FE	(6) FE IV	(7) FE	(8) FE IV
EU BASIC	-0.154	0.101	0.312	0.320
	(-0.50)	(0.24)	(0.89)	(0.65)
NATO MAP	1.432 ***	2.302 **	1.353 ***	0.868
	(4.93)	(2.25)	(4.29)	(0.69)
LIBERALIZATION	1.115 ***	3.110 **	0.587 **	1.137
	(3.14)	(2.03)	(2.35)	(0.47)
AID	-0.110	-0.180	-0.076	0.201
	(-1.18)	(-1.07)	(-0.85)	(0.82)
R-squared	0.41	0.08	0.34	0.06
adjusted R-squared	0.37	-0.22	0.30	-0.21
No. observations	141	141	155	155
Wald test, p-value	0.00	0.05	0.00	0.36
Time dummies	yes	yes	yes	yes
Hansen test, p-value	n/a	0.93	n/a	0.20
Kleibergen-Paap, p-value	n/a	0.04	n/a	0.32
Stock and Wright, p-value	n/a	0.07	n/a	0.06

Note: Dependent variable: aggregate WBGI; for the definition of variables see Table 3. Heteroskedasticity and autocorrelation robust t-statistics in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A2: Robustness Check of NATO impact with exogenous NATO MAP, 1996 – 2005

	(1) POLS	(2) Pooled IV	(3) FE	(4) FE IV
EU BASIC	0.977 ***	0.965 ***	-0.084	0.168
	(3.28)	(3.30)	(-0.24)	(0.26)
NATO MAP	1.424 ***	1.410 ***	1.387 ***	1.479 ***
	(5.65)	(5.49)	(4.98)	(4.15)
LIBERALIZATION	1.919 ***	1.954 ***	1.256 ***	3.424
	(7.07)	(6.17)	(3.19)	(0.94)
AID	-0.237 ***	-0.236 ***	-0.116	-0.161
	(-5.10)	(-5.56)	(-1.23)	(-0.97)
WESTERN	3.686 ***	3.694 ***	0.000	
	(7.30)	(7.82) .		
TENSIONS	-1.335 ***	-1.330 ***	0.000	
	(-2.84)	(-2.96) .		
COHESION	0.007 **	0.007 **	0.000	
	(2.13)	(2.29) .		
ENDOWMENT	-0.964 ***	-0.957 ***	0.000	
	(-5.29)	(-5.98) .		
NATO MEMBER	0.881 **	0.885 ***	0.293	0.689
	(2.69)	(2.97)	(1.36)	(0.90)
R-squared	0.96	0.96	0.42	0.14
adjusted R-squared	0.95	0.95	0.37	-0.15
No. observations	141	141	141	141
Wald test, p-value	0.00	0.00	0.00	0.00
Time dummies	yes	yes	yes	yes
Hansen test, p-value	n/a	0.65	n/a	0.84
Kleibergen-Paap, p-value	n/a	0.02	n/a	0.42
Stock and Wright, p-value	n/a	0.21	n/a	0.45

Note: Dependent variable: aggregate WBGI; for the definition of variables see Table 3. Heteroskedasticity and autocorrelation robust t-statistics in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A3: Summary of robustness checks for the impact of NATO MAP on institutional development – variables added to baseline model, 1996 – 2005

Model	POLS	Pooled IV	Hansen test	Kleibergen-Paap test	Stock-Wright test	#Obs	Kleibergen-Paap test	FE	FE IV	Hansen test	Kleibergen-Paap test	Stock-Wright test	#Obs
(1) Baseline	1.71 ***	1.96 ***	2.27	21.93 ***	11.63 *	141	21.93 ***	1.43 ***	2.30 **	0.46	9.94 **	11.64 *	141
	(0.00)	(0.00)	(0.52)	(0.00)	(0.07)		(0.00)	(0.00)	(0.02)	(0.93)	(0.04)	(0.07)	
(2) add INFLATION	1.64 ***	1.79 ***	2.22	20.93 ***	12.04 *	141	20.93 ***	1.46 ***	2.44 ***	0.26	9.23 *	11.93 *	141
	(0.00)	(0.00)	(0.53)	(0.00)	(0.06)		(0.00)	(0.00)	(0.00)	(0.97)	(0.06)	(0.06)	
(3) add NATO MEMBER	1.42 ***	0.31	2.35	10.03 **	12.14 *	141	10.03 **	1.39 ***	0.25	1.83	7.02	11.64	141
	(0.00)	(0.48)	(0.50)	(0.04)	(0.10)		(0.04)	(0.00)	(0.85)	(0.61)	(0.14)	(0.11)	
(4) add BEGIN NEGOTIATIONS, STRONG NOTICE	1.00 ***	1.48 ***	2.80	15.11 ***	14.09 **	141	15.11 ***	1.25 ***	2.39 ***	0.37	14.09 ***	14.46 **	141
	(0.00)	(0.01)	(0.42)	(0.00)	(0.03)		(0.00)	(0.00)	(0.00)	(0.95)	(0.01)	(0.02)	
(5) add GROWTH	1.81 ***	2.29 ***	1.90	17.93 ***	13.95 *	141	17.93 ***	1.51 ***	1.92 ***	4.40	10.20 *	13.53 *	141
	(0.00)	(0.00)	(0.75)	(0.00)	(0.08)		(0.00)	(0.00)	(0.01)	(0.35)	(0.07)	(0.09)	
(6) add INCOME INDEX	1.52 ***	1.89 ***	4.59	19.86 ***	16.19 **	141	19.86 ***	1.36 ***	1.50 *	2.66	6.01	13.02	141
	(0.00)	(0.00)	(0.33)	(0.00)	(0.04)		(0.00)	(0.00)	(0.10)	(0.62)	(0.30)	(0.11)	
(7) add MINERAL EXPORTS for ENDOWMENT	1.62 ***	1.69 ***	5.43	18.40 ***	14.34 **	126	18.40 ***	1.54 ***	3.27 ***	1.64	6.31	12.84 **	125
	(0.00)	(0.00)	(0.14)	(0.00)	(0.03)		(0.00)	(0.00)	(0.00)	(0.65)	(0.18)	(0.05)	
(8) add EXPORTS	1.43 ***	1.95 ***	2.14	19.11 ***	15.96 **	137	19.11 ***	1.46 ***	2.40 ***	1.45	10.90 *	14.93 *	137
	(0.00)	(0.00)	(0.71)	(0.00)	(0.04)		(0.00)	(0.00)	(0.00)	(0.84)	(0.05)	(0.06)	
(9) add DISTANCE	1.62 ***	1.80 ***	2.99	21.85 ***	10.89 *	141	21.85 ***	1.43 ***	2.30 **	0.46	9.94 **	11.64 *	141
	(0.00)	(0.00)	(0.39)	(0.00)	(0.09)		(0.00)	(0.00)	(0.02)	(0.93)	(0.04)	(0.07)	
(10) add FDI, FUEL EXPORTS, and cross term	1.71 ***	1.83 ***	3.69	14.27 **	17.37 **	126	14.27 **	1.48 ***	3.67 ***	2.32	5.86	14.60 *	125
	(0.00)	(0.00)	(0.45)	(0.01)	(0.03)		(0.01)	(0.00)	(0.00)	(0.68)	(0.32)	(0.07)	
(11) add FDI, MINERAL EXPORTS, and cross term	1.48 ***	1.34 **	5.43	10.74 *	14.87 *	126	10.74 *	1.50 ***	3.44 ***	2.39	8.75	14.25 *	125
	(0.00)	(0.03)	(0.25)	(0.06)	(0.06)		(0.06)	(0.00)	(0.00)	(0.66)	(0.12)	(0.08)	
(12) add FDI, ENDOWMENT, and cross term	1.65 ***	1.99 ***	2.88	11.63 **	13.21	141	11.63 **	1.41 ***	2.28 **	0.98	7.76	13.14	141
	(0.00)	(0.00)	(0.58)	(0.04)	(0.10)		(0.04)	(0.00)	(0.02)	(0.91)	(0.17)	(0.11)	
(13) add FDI, and TENSIONS cross term	1.72 ***	1.97 ***	3.24	4.48	12.66	141	4.48	1.42 ***	2.13 *	1.38	4.79	13.44 *	141
	(0.00)	(0.00)	(0.52)	(0.48)	(0.12)		(0.48)	(0.00)	(0.09)	(0.85)	(0.44)	(0.10)	
(14) add FDI, INCOME INDEX, and cross term	1.52 ***	1.39	1.32	4.22	16.99 *	141	4.22	1.38 ***	1.02	6.79	7.11	15.06	141
	(0.00)	(0.16)	(0.93)	(0.65)	(0.07)		(0.65)	(0.00)	(0.54)	(0.24)	(0.31)	(0.13)	

(continued on the next page)

Table A3 (continued): Summary of robustness checks for the impact of NATO MAP on institutional development – variables added to baseline model, 1996 – 2005

	Model	POLS	Pooled IV	Hansen test	Kleibergen-Paap test	Stock-Wright test	#Obs	Kleibergen-Paap test	FE	FE IV	Hansen test	Kleibergen-Paap test	Stock-Wright test	#Obs
(15)	add AID, FUEL EXPORTS, and cross term	1.74 ***	1.87 ***	3.08	17.55 ***	16.27 **	126	17.55 ***	1.48 ***	3.48 ***	1.33	5.28	13.00 **	125
		(0.00)	(0.00)	(0.38)	(0.00)	(0.01)		(0.00)	(0.00)	(0.00)	(0.72)	(0.26)	(0.04)	
(16)	add AID, MINERAL EXPORTS, and cross term	1.56 ***	1.60 ***	5.16	16.76 ***	14.38 **	126	16.76 ***	1.54 ***	3.20 ***	1.65	4.52	12.44 *	125
		(0.00)	(0.00)	(0.16)	(0.00)	(0.03)		(0.00)	(0.00)	(0.00)	(0.65)	(0.34)	(0.05)	
(17)	add AID, ENDOWMENT, and cross term	1.62 ***	1.83 ***	2.85	21.98 ***	12.43 *	141	21.98 ***	1.38 ***	2.35 **	0.44	9.75 **	11.36 *	141
		(0.00)	(0.00)	(0.42)	(0.00)	(0.05)		(0.00)	(0.00)	(0.02)	(0.93)	(0.04)	(0.08)	
(18)	add AID, and TENSIONS cross term	1.74 ***	1.73 ***	1.27	3.87	12.10 *	141	3.87	1.39 ***	2.20 *	0.44	1.65	13.91 **	141
		(0.00)	(0.00)	(0.74)	(0.42)	(0.06)		(0.42)	(0.00)	(0.06)	(0.93)	(0.80)	(0.03)	
(19)	add AID, INCOME INDEX, and cross term	1.49 ***	1.65 ***	5.24	19.63 ***	16.25 **	141	19.63 ***	1.36 ***	1.72 **	2.70	6.79	13.17	141
		(0.00)	(0.00)	(0.26)	(0.00)	(0.04)		(0.00)	(0.00)	(0.01)	(0.61)	(0.24)	(0.11)	

Note: Dependent variable: aggregate WBGI; INCOME INDEX is defined as GDP per capita scaled by INITIAL INCOME. FUEL EXPORTS is one component of MINERAL EXPORTS. DISTANCE is the physical distance between the capital and Brussels. EXPORTS are the three year average of exports to non-transition countries. For the definition of other variables see Table 2. Heteroskedasticity and autocorrelation robust p-values in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.