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Context Is Everything

Measuring Institutional Change in Transition Economies

Nauro F. Campos

What aspects of institution
building most affect the
transition to a market
economy? In terms of effects
on per capita income and
school enrollment, the rule of
law may be most important.
In terms of life expectancy,
the quality of the bureaucracy
plays a more crucial role.

Summary findings

Campos presents measures with which to map institution building during the transition from centrally planned to market economies. Data collection and indicators are measured in terms of five institutional dimensions of governance:

- Accountability of the executive
- Quality of the bureaucracy
- Rule of law
- Character of policy-making process
- Strength of civil society.

Campos highlights the differences over time and between Central and Eastern European countries and those of the former Soviet Union.

In terms of effects on per capita income and school enrollment, Campos finds the rule of law to be the most important institutional dimension, both for the sample as a whole and for differences between the two regions.

In terms of life expectancy, however, the quality of the bureaucracy plays the most crucial role.

One important message Campos draws from the results is that institutions do change over time and are by no means as immutable as the literature has suggested. The range of feasible policy choices (for changing institutions) may be much wider than is often assumed.

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CONTEXT IS EVERYTHING:

MEASURING INSTITUTIONAL CHANGE IN TRANSITION ECONOMIES*

Nauro F. Campos
CERGE-EI
P.O. Box 882, Politických veznu 7
111 21 Prague 1, Czech Republic.
E-mail: nauro.campos@cerge.cuni.cz

Comments welcome.

1. INTRODUCTION

In recent years, significant progresses have been made in the economic analysis of institutional change. Chiefly among them is the recognition that institutions are much more malleable than initially thought.[1] Although the institutional framework in the developed world indeed does change very slowly over time, the same holds not with respect to the experiences of developing and transition countries (Lin and Nugent, 1995). These countries are still in search of an institutional matrix that effectively solves problems of "social conflict management" (Rodrik, 1997) or, from a different perspective, they are still trying to find their ways toward a "worked-out and generally accepted framework of property rights" (Solow, 1997). That institutions matter for economic growth and development is —and always was— hardly controversial, but recent research is starting to point to answers to which institutions matter, and why and how this is so.

If institutions encompass the players and the rules of the game and if they evolve with detectable speed, then what is now taking place in the former communist economies presents a unique opportunity: the chance to observe large-scale institutional change (Dewatripont and Roland, 1997). This opportunity would be missed without efforts to identify the crucial elements of the "institutional matrix," to propose empirical measures that reflect

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[1] The empirical literature on the economic impact of institutions has draw much comfort from the proposition that institutions do not change, or that they change so slowly that cross-sectional data provides an appropriate representation. Campos and Nugent (1999) critically assess this proposition. Aron (1998) surveys this literature to find only one panel data study. For empirical studies of the impact of institutions in transition, see Adelman and Vujovic (1998), Brunetti, Kisunko and Weder (1997), Dethier, Ghanem and Zoli (1999), and Moers (1999).

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their evolution over time and across countries, and to evaluate whether (at least) some of them have detectable effects on various dimensions of development performance. Today it is possible to tell which countries have progressed further in the transition towards a market economy (EBRD, various years), but we are still unable to identify among the elements inside the "institutional black box" which ones played prominent roles and why. For many social sciences, the transition experience is unique and valuable. For institutional economics, it is vital. Economists that believe that institutions are central must work hard to put forward a set of indicators that, as a group, is able to identify differences in the national processes of institutional change and to distil their implications in terms of the various development experiences.

The objective of this paper is to assemble a set of indicators to allow a first mapping of institutional change during the transition from centrally planned to a market economy.[2] The concept of governance and its five institutional dimensions (World Bank, 1994) provide the basis for the data collection effort. The paper details the construction of a panel set of yearly data covering 25 Central and Eastern European and former Soviet Union countries from 1989 to 1997.[3] To evaluate the goodness of these constructed measures of the institutional dimensions of governance, the paper assess their ability to differentiate

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[2] Notice that the disregard for institutional reform at the outset of the transition is being reversed: contrast for example Blanchard et al. (1991, pp. xxi-xxii) to Stiglitz (1999). See also Burki and Perry (1998) and North (1997).

[3] The study focuses on the following countries: Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Croatia, Czech Republic, Estonia, FYR Macedonia, Georgia, Hungary, Kazakstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Poland, Romania, Russian Federation, Slovak Republic, Slovenia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

development performance across transition economies over time. Development performance is measured by real per capita income (levels and growth rates), life expectancy at birth and school enrolment rates. Therefore, this paper offers answers to the following three questions: (a) To what extent can the relevant institutional dimensions be measured in terms of the data available for transition economies? (b) To what extent do the resulting measurements of these relevant dimensions vary among these countries and over time? And (c) To what extent do the differences in these dimensions, across countries and over time, help explain variations in economic development performance?

It is important to note that these objectives exclude, inter alia, an analysis of the relationship between institutional building and liberalization, stabilization and privatization.[4] It will be only after data sets similar to the one constructed for this paper are judged satisfactory that this will become a natural (and arguably the most important) extension. Nonetheless, it is important to note that the argument that the institutional vacuum that followed the fall of socialism is at the root of the successes and failures in economic reform has already been made. For instance, Boone and Horder relate the institutional vacuum to the inflation problems experienced by the transition countries in the early 1990s: "[the breakdown of the one-party system] meant

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[4]   This is a trivial issue under the assumption that government policies are directly related to institutional success or failure. The new institutional economics has emphasized that the relationship between policies and institutions is much more intricate than previously thought (Nugent, 1998, and Campos, Khan and Tessendorf, 1999). See Åslund (1999) for an analysis of the transition failure in Russia in terms of the relationship between policies and institutions (rapid elimination of government-induced distortions followed by complete and open inattention to institutional reform).

that many of the checks and balances on political decision were lost... In the vacuum that followed the political breakdown, the old elites and rent seekers captured the political initiative in these countries. To sustain their powers, and sequester incomes, they issued credits and maintained distortionary policies and, as a result, acquired enormous assets" (1998, p.43).

The major conclusion is that the panel data set constructed for this paper seems to allow a good mapping of the process of institution building and is quite able to highlight important differences over time and between Central and Eastern European and former Soviet Union countries. The rule of law is found to be the most important institutional dimension of governance (in terms of its effects on per capita income and school enrolment), both for the sample as a whole and for differentiating Central and Eastern European from former Soviet Union countries. However, vis-à-vis life expectancy, the quality of the bureaucracy plays a more important role than other institutional dimensions.

The organization of the paper is as follows: Section 2 distils the hypothesized links among the institutional dimensions of governance and between them and the various indicators of development performance. Section 3 identifies the data sources for constructing measures of the different governance characteristics and summarizes these differences across countries and over time. Section 4 investigates whether differences in the constructed indicators of the institutional dimensions of governance are significant with respect to various aspects of development performance. Section 5 concludes.

2. DEFINING THE INSTITUTIONAL DIMENSIONS OF GOVERNANCE

"Governance" is the central concept for this study.[5] Although there are many definitions available, the World Bank (1994, 1996, 1997) seems to have gone further in operationalizing it.[6] Governance is thought of as having five critical institutional dimensions: (1) the executive, (2) the bureaucracy, (3) the rule of law, (4) the character of the policy-making process, and (5) civil society. Corresponding to each one of these institutional dimensions is a characteristic associated with "good governance." The executive branch of government (1a) should be accountable for its actions. The quality of the bureaucracy (2a) should be high ("imbued with a professional ethos") such that it is efficient and capable of adjusting to changing social needs. The legal framework should be appropriate to the circumstances and command broad consensus (3a). The policy-making process should be open and transparent so that all affected groups may have inputs into the decisions to be made (4a). And civil society should be strong so as to enable it to participate in public affairs (5a). The quantitative indicators that are found to reflect these five dimensions form the basis of the data set constructed for this paper.

There are, however, four observations that should be made up front. First, the notion that these five dimensions should be jointly satisfied implies that the different characteristics are

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[5] This section draws upon Campos and Nugent (1999).

[6] For conceptual discussions of governance see Streeten (1996), Dethier (1999) and International Monetary Fund (1997). Examples of (cross-sectional) empirical studies on the issue are Olson, Sarna and Swamy (1997) and Kaufmann, Kraay and Zoido-Libaton (1999).

thought of as complements to one another. Satisfying any one dimension raises the probability that another will be satisfied and/or its effect on development performance will be raised.

Second, all five components are multi-dimensional. For example, regarding the rule of law, there are dimensions which relate to the public sector and others pertaining to the private sector and for each there are juridical, legislative, executive, enforcement and acceptability issues, which may involve perceptions of fairness and compatibility with informal social norms.

Third, the fact that several dimensions may be involved in any single institutional component and that no less than five different characteristics are the basis for the notion of governance implies that this latter concept is exceptionally comprehensive.

Fourth and finally, although these characteristics are institutionalized (i.e., are derived from institutions, their rules and how well they work), their relevance for development performance depend on the degree to which a given country's governance characteristics can be changed over time. While improvements in governance may be reinforcing, institutional decay and loss of capacity may also ensue when the governance conditions in a country become adverse.

Thus far, analyses of the effects of governance characteristics have taken quite different forms. Some, e.g., Pritchett, Isham and Kaufmann (1996), have investigated the issue in detailed micro-level studies. Others have investigated the

effects at the macroeconomic level of a single characteristic of governance at a time, e.g., the effect of bureaucratic quality on the prospects for macroeconomic reform (Ball and Rausser, 1995). Generally speaking, macro-level tests of the effects of these and other institutional characteristics on economic development have been almost exclusively limited to international cross-section studies. As such, it is unclear that the results obtained from such studies apply to individual countries over time. Indeed, it is the potentially dynamic character and comprehensiveness of governance characteristics that give this concept such importance. However, for the reasons just discussed the various characteristics have to be tested collectively and in a context in which they may have changed considerably over time.[7]

The five characteristics of good governance have been identified in (1a) - (5a) above. One important issue is to try to relate these both to each other and to each indicator of economic development performance. As suggested above, the relationships among the various components of good governance are deemed by the World Bank (1994) to be complementary. For example, when (2a) the quality of bureaucracy (as defined above) is high, the government may be better able to respond to the changing needs of its citizenry. These needs can be better expressed when there is both a strong civil society (5a) and the executive branch is accountable for its actions (1a). The relevance and strength of both (1a) and (5a), in turn, are increased when the policy-making process is characterized by a high degree of transparency, i.e.,

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[7] As noted above, this has been the case in the Central and Eastern European and former Soviet Union countries since 1989.

governance characteristic (4a) is fulfilled. The effects of all the other governance characteristics would be undermined if neither the public nor private sectors behave according to the rule of law. Without transparency, narrow interest groups may impede desirable changes. Yet, with transparency, civil society is more likely to become involved in the policy-making debate. On the other hand, the achievement of transparency requires pressures for widespread participation from civil society. By the same token, without transparency of the policy-making process, even well-intentioned and constructive efforts by various groups will be less likely to know how to succeed, and hence less successful in affecting policy and governance characteristics in the desired direction. The executive arm of the government must be accountable for its actions if those actions are not to be "captured" by a small, narrowly defined interest group more interested in rent seeking than in broadly based development.

One might suspect that some of the institutional dimensions of governance would have stronger effects on some elements of development performance than on others (UNDP, 1995). For example, (2a) and (4a) would seem to be most directly related to the level of income per capita. On the other hand, characteristics (1a), (3a) and (5a) might be relatively more important in determining life expectancy and school enrolment rates. If there would seem to be two or more different variables primarily responsible for determining any development performance indicator, the necessity of pure complementarity among the governance characteristics might be questioned. Indeed, one could think of (1a) and (4a) as being

substitutes for one another, (2a), (3a) and (5a) as potential substitutes for one another. Complementarity would be between each of these sets. In the light of the previous discussion, strong assertions of this type are risky without an empirical basis.

3. MEASURING THE INSTITUTIONAL DIMENSIONS OF GOVERNANCE

The measurement of the various characteristics of governance is no easy matter. For one thing, several of these characteristics are, in principle, multi-dimensional. To do justice to the multi-dimensionality of these characteristics implies the need for different measures for each dimension. Until full-fledged sample surveys designed specifically to measure governance are developed, studies will have to utilize existing data sets with less than ideal data for the purpose. Given the importance of such issues, the investments in new data that have been made in recently, and the costs of collecting additional data, it is imperative to take stock of the available data, use it to determine whether the hypotheses have merit and, if so, whether further investments in data collection are indeed desirable.

The purpose of this section is to identify available data that may be relevant to each of the institutional dimensions of governance (1a)-(5a), as discussed above. Three observations are necessary. First, all variables were transformed from their original scale to one from 0 to 10, and were inverted (when needed) to have higher scores reflecting better institutional performance. Second, after assembling the largest possible data set of institutional indicators, coverage was found to be

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unbalanced, that is, much better for characteristics (2a), (3a) and (5a). Consequently, the transparency of the policy-making process and the accountability of the executive were merged in a single characteristic. Third, the country and time coverage from all different sources varies quite a lot, so interpolations need to be performed. These were supported by Banks (various years), Gwartney, Lawson and Block(1996), Holmes, Johnson and Kirkpatrick (1997, 1998) Karatnycky, Motyl and Shor (1998), Messick (1996), and Taylor and Jodice (1993).

Let start describing the indicators used as the basis for the measure of characteristic (2a), the quality of the bureaucracy. This was constructed on the basis of two existing indicators. The first, available from the International Country Risk Guide (ICRG), is called "bureaucratic quality" and captures the extent to which the national bureaucracy enjoys autonomy from political pressure, has the strength and expertise to govern in a stable manner without drastic changes in policy, and has an effective mechanism for recruiting and training. The second such indicator, from Holmes, Johnson and Kirkpatrick (1997, 1998) is their "factor #9, regulation." It measures, on a 1-5 scale, the extent of licensing requirements to operate a business, the ease to obtain a business license, the corruption within the bureaucracy, and the extent and nature of labor, environmental, consumer safety, and worker health regulations.

Characteristic (3a), the rule of law, was constructed on the basis of three indicators, the first two focusing on enforcement and the latter on the type and substance of the "law" itself. The

first is again an ICRG indicator ("rule of law tradition") reflecting the country-specific degree to which citizens are willing to accept the established institutions for making and implementing laws and adjudicating disputes. Higher scores of "rule of law" indicate that the country has sound political institutions and a strong court system. The second such indicator, from Holmes, Johnson and Kirkpatrick (1997, 1998) is their "factor #8, property rights." It measures, on a 1-5 scale, the government influence over the judicial system, the commercial code defining contracts, the sanctioning of foreign arbitration of contract disputes, corruption within the judiciary, delays in judicial decisions, and the extent of legally granted and protected private property. Notice that this indicator also takes into account the risk of expropriation, but as individual scores are not provided, it is impossible to purge it from this measure.[8] The third indicator upon which this measure is based is "rule of law" from Karatnycky, Motyl and Shor (1998). It measures on a 1 to 7 scale whether a post-communist constitution has been adopted, whether it does provide for property and human rights, whether the criminal code has been subject to reform, whether judges rule fairly and impartially and whether they were appointed during the communist era, whether the courts are free of political control, whether the state provide public defenders, and whether ethnic minority rights are protected.

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[8] This is a problem because an indicator for risk of expropriation from a different source was used as a component in another characteristic, as discussed below.

In the case of (5a), the strength of civil society, three indicators were identified to depict some of the necessary conditions under which a strong civil society might emerge. The first two indicators are from Gastil (now Freedom House), civil liberties[9] and political rights.[10] Notice that although these are quite comprehensive indicators, individual scores are not provided.[11] The third is the "civil society" indicator from Karatnycky, Motyl and Shor (1998). The latter reflects the degree to which volunteerism, trade unionism, and professional associations exist, and whether civic organizations are influential.

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[9] The indicator for "civil liberties" addresses the following issues: Are there free and independent media, literature and other cultural expressions? Is there open public discussion and free private discussion? Is there freedom of assembly and demonstration? Is there freedom of political or quasi-political organization? Are citizens equal under the law, with access to an independent, nondiscriminatory judiciary, and are they respected by the security forces? Is there protection from political terror, and from unjustified imprisonment, exile or torture, whether by groups that support or oppose the system, and freedom from war or insurgency situations? Are there free trade unions and peasant organizations or equivalents, and is there effective collective bargaining? Are there free professional and other private organizations? Are there free businesses or cooperatives? Are there free religious institutions and free private and public religious expressions? Are there personal social freedoms, which include such aspects as gender equality, property rights, freedom of movement, choice of residence, and choice of marriage and size of family? Is there equality of opportunity, which includes freedom from exploitation by or dependency on landlords, employers, union leaders, bureaucrats or any other type of denigrating obstacle to a share of legitimate economic gains? Is there freedom from extreme government indifference and corruption?

[10] The "political rights" indicator is constructed on the basis of the following questions: Is the head of state and/or head of government or other chief authority elected through free and fair elections? Are the legislative representatives elected through free and fair elections? Are there fair electoral laws? Are the voters able to endow their freely elected representatives with real power? Do the people have the right to freely organize in different political parties or other competitive political groupings of their choice, and is the system open to the rise and fall of these competing parties or groupings? Is there a significant opposition vote, de facto opposition power, and a realistic possibility for the opposition to increase its support or gain power through elections? Are the people free from domination by the military, foreign powers, totalitarian parties, religious hierarchies, economic oligarchies or any other powerful groups? Do cultural, ethnic, religious and other minority groups have reasonable self-determination, self-government, autonomy or participation through informal consensus in the decision-making process?

[11] This is a problem because an indicator of "independent media" was used as a component in another characteristic, as discussed below.

As noted before, in contrast to these first three institutional characteristics, for the "transparency of the policy-making process" and "accountability of the executive" (characteristics 1a and 4a) there is considerably greater difficulty in identifying suitable indicators. In order to circumvent these difficulties, the two characteristics were merged ("accountability and transparency") and the following four series were used to construct the relevant indicator. From Karatnycky, Motyl and Shor (1998), "political process" and "independent media" were used. The former reflects, on a 1 to 7 scale, elections, referenda, party configuration, conditions for political competition, and popular participation in elections. Using the same scale, "independent media" assesses the freedom of the press, public access to various information sources, and the independence of those sources from undue government or other influences. The other two indicators (from ICRG) capture the risk of government repudiation of contracts and the risk of expropriation, respectively.

Table 1 contains the description of all the variables used in the analysis. Table 2 shows basic statistics for the whole sample, as well as for two important sub-samples, Central and Eastern European (CEE) countries (the Baltics included) and countries that are members of the Commonwealth of Independent States (CIS).

The crucial issue is to assess the extent to which the institutional characteristics of governance are captured by the panel data set constructed for this paper. The relevance of this

exercise is given by the hypothesis that these five institutional characteristics are complements to, not substitutes for, each other. To start dealing with this issue, the pair-wise correlation coefficients are examined. A low and statistically insignificant correlation will suggest that the two underlying variables capture different institutional characteristics of governance, and vice-versa, a high and statistically significant correlation would suggest that the two underlying variables capture the same institutional characteristics of governance. The pair-wise correlation coefficients are given in Table 3. Because of the ordinal character of these institutional indicators, Spearman (rank) correlations were deemed more appropriate.

There are a number of salient issues. The pair-wise correlations for the whole sample are somewhat high, ranging from 0.61 between civil society and quality of the bureaucracy to 0.72 between civil society and "accountability and transparency." Notice also that the correlations between all four institutional measures and the CIS dummy are negative. Closer examination for the two sub-samples reveals that the correlation coefficients are much lower, but the one between civil society and "accountability and transparency" is still the largest. For the Central and Eastern European countries, the lowest correlation is that between the quality of the bureaucracy and the rule of law, while that for the CIS countries it is the one between the rule of law and "accountability and transparency." The fact that breaking down the sample significantly lowers the correlation coefficients suggests that the data set capture different aspects of the institutional

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matrix. This judgement is reinforced by noting that these pair-wise correlation coefficients are even lower when the time dimension is controlled for (i.e., examining these coefficients for each sub-sample in each year, at the cost of much lower number of observations). In order to evaluate the goodness of these constructed measures of the institutional dimensions of governance, next we assess whether they are able to differentiate development performance across transition economies over time.

4. ASSESSING THE PROPOSED MEASUREMENT OF THE INSTITUTIONAL DIMENSIONS OF GOVERNANCE

Having constructed a set of four factors (or groups of institutional characteristics of governance), the next question is whether the differences they capture are (statistically) significant in explaining development performance over time and across transition countries. When development performance is proxied by per capita income, economic growth, life expectancy at birth and secondary school enrolment rates.

Before discussing the empirical results, it is important to issue some additional words of caution. First, the analysis is exploratory in that there is no formal theoretical model from which the findings can be checked against. And second, the institutions of governance are assumed to be exogenous to each of the development performance indicators, thereby justifying the use of the method of Ordinary Least Squares (OLS).

The first set of results is shown in Table 4. For the complete sample, and the CEE and CIS sub-samples, it reports parameter estimates, their standard errors, their t-ratios and

associated p-values, from OLS regressions of the average level of per capita GDP on the set of four institutional indicators.[12] Altogether, the set of governance characteristics captures a satisfactory proportion of the intra-regional differences in the level of per capita GDP over time. For the complete sample, three out of the four institutional indicators are statistically significant and have the correct sign (recall that all institutional indicators were normalized and re-scaled so as to justify the expectation of a positive effect of each institutional characteristic on the various development performance indicators). The only one that does not perform well is "accountability and transparency." Breaking down the sample into CIS and CEE brings a number of differences to light. For the CEE countries, only rule of law and civic society are statistically significant (at the 5 percent level), while the most important factors with respect to differences among CIS countries are the quality of the bureaucracy and rule of law.

Table 5 contains the results of similar regressions when the dependent variable is the growth of income per capita, instead of its level. It is remarkable that rule of law is the only statistically significant institutional dimension of governance. Moreover, none of the four perform satisfactorily for the CEE countries, while only one (the quality of the bureaucracy) is not statistically significant for the CIS sub-sample.

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[12] The reader should bear in mind that all regressions are run with year dummies to purge the "time effect" out of a "pure institutional effect." These coefficients are not shown for the sake of space.

With respect to life expectancy at birth, as shown in Table 6, the institutional indicators capture a rather low proportion of the intra-regional differences. Not surprisingly, the quality of the bureaucracy is the only indicator showing statistical significance (which is also true for the CEE sample). Notice that the "accountability and transparency" dimension is statistically significant but, surprisingly, carries a negative sign. For the CIS countries, none of the coefficients is statistically significant at the 5 percent level.

Finally, as shown in Table 7, the over time and cross-country variation in the last measure of development performance, secondary school enrolment rates, is better explained for the CIS than for the pooled sample as all relevant coefficients are significant in the former. While civil society and the rule of law show a positive impact, the opposite can be seen for the quality of the bureaucracy and for "accountability and transparency." Although for the CEE countries, "accountability and transparency" is the only coefficient that is not statistically significant, the sign pattern from the whole sample for the other three dimensions is repeated. Once again, for the CIS countries, none of the coefficients is statistically significant (at the 5 percent level).

In light of these results, the data set put together for this paper seems to perform quite reasonably. Yet, one concern is the possibility that this performance is driven by multicollinearity or by the aforementioned complementarity or substitutability between the different institutional dimensions

vis-à-vis each development performance indicator. The method chosen to investigate this issue was to enlarge the previous specifications with the set of six possible interaction terms. And then evaluate the significance and sign of the coefficients of the interaction terms in order to assess whether any given pair of institutional characteristics are complements to or substitutes for each other (vis-à-vis the development performance indicator in question).

Table 8 reports the parameter estimates, their standard errors, their t-ratios and p-values, from OLS regressions of the average level of per capita GDP on both the set of four institutional indicators and the set of six interaction terms. Compared to the results in Table 4, all coefficients loose statistical significance, for the complete sample. On the other hand, clearer pictures emerge for the two sub-samples. Among CEE countries, the coefficient on the quality of the bureaucracy is negative and significant after taking into account that it is complementary to "accountability and transparency" and that the coefficient on the interaction term between civil society and rule of law (the two other significant results in the regression in Table 4) is positive, suggesting complementarity between them. Similar results obtain for the CIS countries. The quality of the bureaucracy seems to have an important positive impact, and the same holds for the interaction between rule of law and "accountability and transparency."

The results for economic growth improve after controlling for the interaction terms (table 9). Notice that the role of rule

of law (prominent in the results in Table 5) is now replaced by a relationship of substitutability between this institutional dimension and the quality of the bureaucracy. Moreover, "accountability and transparency" now gains statistical significant but carries a negative sign. While without the interaction terms there were no statistically significant coefficients for the CEE sample, adding interaction terms makes many of them so. Cases in point are civil society, rule of law and "accountability and transparency" (note however that the first shows a positive impact while the last two show negative effects). Moreover, these obtain with some significant interaction terms: civil society and the quality of the bureaucracy and "accountability and transparency" and rule of law seem to be (both pairs) complements, and civil society and "accountability and transparency" seem substitutes (vis-à-vis economic growth). For the CIS sample, civil society and "accountability and transparency" remain statistically significant and carry the same signs as before. As for the interaction terms, rule of law and the quality of the bureaucracy are taken to be substitutes, while the quality of the bureaucracy and "accountability and transparency" are taken to be complements.

Table 10 shows the results for life expectancy at birth enlarged by the set of interactions terms. Although previously for the whole sample (table 6) only the quality of the bureaucracy showed a significant impact, now only civil society does so. As for the interaction terms, note that civil society and rule of law seem complements vis-à-vis life expectancy, while civil society

and "accountability and transparency" are taken to be substitutes. The negative impact of "accountability and transparency" for the CEE countries remains, but the coefficient on civil society is now statistically significant and positive. In addition to the two significant interaction terms for the whole sample, for the CEE it also obtains that the quality of the bureaucracy and rule of law are substitutes while the quality of the bureaucracy and "accountability and transparency" are complements. The major change for the CIS is that the coefficient on "accountability and transparency" is now statistically significant and positive. Furthermore, this dimension is found to be a substitute for the rule of law.

Finally, table 11 shows the results for the gross secondary school enrolment rates. Despite the substantial improvements in adjusted R^2 (compared to table 7), many results diverge. While all dimensions were previously statistically significant for the whole sample, now only "accountability and transparency" and rule of law remain so, but both coefficients carry negative signs. Moreover, the quality of the bureaucracy and civil society and (not surprisingly) "accountability and transparency" and rule of law are complements. Notice also that with the addition of the interaction terms, there are no statistically significant coefficients left for the CEE sample. For the CIS countries, the only important finding is that civil society and the quality of the bureaucracy are complements.

Time is ripe for a summary. After accounting for the possibility of interactions between the four institutional

dimensions of governance, for the complete sample the rule of law is found to be the most important institutional dimension (in terms of its effects on per capita income and school enrolment), both for the sample as a whole and for its capacity to differentiate Central and Eastern European from former Soviet Union countries. Yet, vis-à-vis life expectancy, the quality of the bureaucracy plays the crucial role.

5. CONCLUSIONS

The objective of this paper was to put forward a set of measures to allow a first mapping of institutional building during the transition from centrally planned to a market economy. It used the concept of governance to guide the data collection and indicator construction efforts. The panel data set constructed for this paper does seem to allow a mapping of the process of institution building, and seems able to highlight differences in this respect over time and between Central and Eastern European and former Soviet Union countries. The rule of law is found to be the most important institutional dimension (in terms of its effects on per capita income and school enrolment), both for the sample as a whole and for its capacity to differentiate Central and Eastern European from the former Soviet Union countries. However, with respect to life expectancy, the quality of the bureaucracy plays the crucial role.

A crucial suggestion for future research is that further improvement of the measures used for the institutional dimensions of governance is needed. Although accountability of the executive

and the transparency of the decision-making process should receive priority, these efforts should not disregard the other three indicators. Moreover, the four constructed measures should be put to test by other researchers to provide an independent assessment of their goodness and applicability.

Finally, one important message from these results is that institutions do change over time. In contrast with the rather pessimistic views of the path-dependency literature, this is a more encouraging finding in that institutions are by no means as immutable and unchangeable as that literature has suggested. This implies that the feasibility space for policy choices (in attempting to change institutions) may be much wider than often assumed.

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Table 1.
Variables description

Abbreviation	Variable	Source
CIS	Dummy variable for country belonging to the Commonwealth of Independent States (O if not)	
GDPGROW	Growth of per capita GDP (annual, %)	WDI CD-ROM 1999
GDPPCPPP	Level of per capita GDP (constant 1995 US$).	WDI CD-ROM 1999
EOFEM	Life expectancy at birth, female.	WDI CD-ROM 1999
EOMALE	Life expectancy at birth, male.	WDI CD-ROM 1999
EOTOT	Life expectancy at birth, total.	WDI CD-ROM 1999
SEPRIM	Gross primary school enrolment rate.	WDI CD-ROM 1999
SEPRFEM	Gross female primary school enrolment rate.	WDI CD-ROM 1999
SESEC	Gross secondary school enrolment rate.	WDI CD-ROM 1999
SESECFEM	Gross female secondary school enrolment rate.	WDI CD-ROM 1999
SETER	Gross tertiary school enrolment rate.	WDI CD-ROM 1999
CIVSOC	Strength of civil society.	Author's calculations (see text)
BUROQUAL	Quality of the burocracy.	Author's calculations (see text)
RULELAW	Rule of law.	Author's calculations (see text)
TRANSACC	Transparency of policy-making and accountability of the executive.	Author's calculations (see text)

Table 2.
Basic Statistics
(Complete sample)

Variable	N	Mean	Std Dev	Minimum	Maximum
CIS	225	0.4400000	0.4974937	0	1.0000000
GDPGROW	211	-4.4013138	10.2978242	-52.3000717	11.3866186
GDPPCPPP	205	4313.17	2187.80	980.0000000	11800.00
EOFEM	203	74.2266996	2.0438013	68.1999970	78.5999985
EOMALE	203	65.7713793	2.9084015	56.5000000	71.0000000
EOTOT	203	69.8959247	2.3054936	62.2072983	74.7072983
SEPRIM	169	96.1751479	8.7545823	76.0000000	122.0000000
SEPRFEM	152	95.8177631	8.9621582	76.0000000	129.0000000
SESEC	168	85.7886906	12.1950831	37.5000000	126.3000031
SESECFEM	152	85.8177634	12.9917502	37.7999992	130.3999939
SETER	178	27.4146068	11.0321824	6.9000001	56.5999985
CIVSOC	225	4.2000000	3.1755046	0	10.0000000
BUROQUAL	225	2.3227778	1.6056361	0.8333333	8.3333333
RULELAW	225	5.6600000	2.4919274	2.0000000	10.0000000
TRANSACC	225	6.7126667	1.7502314	3.0000000	9.5000000

Table 2a.
Basic Statistics
(Central and Eastern Europe sample)

Variable	N	Mean	Std Dev	Minimum	Maximum
GDPGROW	117	-2.2033168	8.9758212	-34.8590050	11.3866186
GDPPCPPP	113	5164.87	2377.83	1490.00	11800.00
EOFEM	122	74.9263936	1.7052437	69.6999970	78.5999985
EOMALE	122	66.7231148	2.4911604	60.7000008	71.0000000
EOTOT	122	70.7247122	1.9003716	65.6537018	74.7072983
SEPRIM	103	96.4378641	6.3904206	81.5000000	111.9000015
SEPRFEM	98	95.5489796	6.3499209	80.9000015	110.0000000
SEShEC	103	83.1514564	13.8758916	37.5000000	126.3000031
SESECFEM	96	83.8500005	14.8489730	37.7999992	130.3999939
SETER	99	23.5909093	8.0525328	6.9000001	45.2000008
CIVSOC	126	5.5158730	3.1514673	0	10.0000000
BUROQUAL	126	3.1431878	1.6976577	0.8333333	8.3333333
RULELAW	126	6.9761905	2.3335766	2.0000000	10.0000000
TRANSACC	126	7.9412698	0.9362068	4.5000000	9.5000000

Table 2b.
Basic Statistics
(Commonwealth of Independent States sample)

Variable	N	Mean	Std Dev	Minimum	Maximum
GDPGROW	94	-7.1371187	11.1948057	-52.3000717	11.0000000
GDPPCPPP	92	3267.07	1328.20	980.0000000	6230.00
EOFEM	81	73.1728395	2.0683338	68.1999970	77.3000031
EOMALE	81	64.3379010	2.9172217	56.5000000	70.3000031
EOTOT	81	68.6476275	2.3094683	62.2072983	73.7145996
SEPRIM	66	95.7651514	11.5641020	76.0000000	122.0000000
SEPRFEM	54	96.3055554	12.4364409	76.0000000	129.0000000
SESEC	65	89.9676923	7.2301475	74.0000000	102.0000000
SESECFEM	56	89.1910712	8.0124057	71.0000000	102.0000000
SETER	79	32.2063290	12.3654432	11.6999998	56.5999985
CIVSOC	99	2.5252525	2.3067440	0	6.6666667
BUROQUAL	99	1.2786195	0.4998812	0.8333333	2.7500000
RULELAW	99	3.9848485	1.4783876	2.0000000	7.0000000
TRANSACC	99	5.1489899	1.2137179	3.0000000	8.0000000

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Table 3.
Spearman Correlation Coefficients
(Complete sample, N = 225)

	BUROQUAL	RULELAW	TRANSACC	CIS
CIVSOC	0.61829 0.0001	0.69072 0.0001	0.72986 0.0001	-0.46502 0.0001
BUROQUAL		0.62007 0.0001	0.69088 0.0001	-0.64554 0.0001
RULELAW			0.67855 0.0001	-0.55219 0.0001
TRANSACC				-0.77525 0.0001

Table 3a.
Spearman Correlation Coefficients
(Central and Eastern Europe sample, N = 126)

	BUROQUAL	RULELAW	TRANSACC
CIVSOC	0.45940 0.0001	0.76578 0.0001	0.69318 0.0001
BUROQUAL		0.32431 0.0002	0.51591 0.0001
RULELAW			0.59755 0.0001

Table 3b.
Spearman Correlation Coefficients
(Commonwealth of Independent States sample, N = 99)

	BUROQUAL	RULELAW	TRANSACC
CIVSOC	0.42326 0.0001	0.26779 0.0074	0.69408 0.0001
BUROQUAL		0.44405 0.0001	0.16831 0.0958
RULELAW			0.39196 0.0001

Table 4.
Ordinary Least Squares Regressions
Dependent Variable: GDPPCPPP
(Intercept and time dummies not shown)

Complete sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	240.961680	77.64116403	3.104	0.0022
BUROQUAL	1	210.207119	92.89991186	2.263	0.0248
RULELAW	1	413.053699	77.86702329	5.305	0.0001
TRANSACC	1	-126.978467	115.26027889	-1.102	0.2720

Root MSE	1583.88104	R-square	0.5067
Dep Mean	4313.17073	Adj R-sq	0.4759
C.V.	36.72196		

Central and Eastern Europe sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	316.585112	155.94767335	2.030	0.0450
BUROQUAL	1	164.747273	130.63032065	1.261	0.2102
RULELAW	1	422.075825	141.36568851	2.986	0.0036
TRANSACC	1	141.816235	302.23976611	0.469	0.6399

Root MSE	1933.60230	R-square	0.4096
Dep Mean	5164.86726	Adj R-sq	0.3387
C.V.	37.43760		

Commonwealth of Independent States sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	27.067688	75.42170508	0.359	0.7206
BUROQUAL	1	1152.302916	264.79306131	4.352	0.0001
RULELAW	1	356.652378	93.35148601	3.821	0.0003
TRANSACC	1	160.263935	134.98596113	1.187	0.2387

Root MSE	892.28492	R-square	0.6082
Dep Mean	3267.06522	Adj R-sq	0.5487
C.V.	27.31151		

Table 5.
Ordinary Least Squares Regressions
Dependent Variable: GDPGROW
(Intercept and time dummies not shown)

Complete sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	0.368824	0.39258362	0.939	0.3486
BUROQUAL	1	0.459084	0.48010794	0.956	0.3401
RULELAW	1	0.807679	0.39043671	2.069	0.0399
TRANSACC	1	-0.174854	0.56614734	-0.309	0.7578

Root MSE	8.10070	R-square	0.4166	
Dep Mean	-4.40131	Adj R-sq	0.3812	
C.V.	-184.05181			

Central and Eastern Europe sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	0.174485	0.54222789	0.322	0.7483
BUROQUAL	1	0.317669	0.46590716	0.682	0.4969
RULELAW	1	0.415261	0.48029448	0.865	0.3892
TRANSACC	1	0.771568	1.05465538	0.732	0.4661

Root MSE	6.96615	R-square	0.4600	
Dep Mean	-2.20332	Adj R-sq	0.3977	
C.V.	-316.16644			

Commonwealth of Independent States sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	2.092719	0.63334424	3.304	0.0014
BUROQUAL	1	-2.396760	2.16518563	-1.107	0.2716
RULELAW	1	2.947646	0.75792461	3.889	0.0002
TRANSACC	1	-4.473516	1.10853564	-4.036	0.0001

Root MSE	7.52697	R-square	0.6063	
Dep Mean	-7.13712	Adj R-sq	0.5479	
C.V.	-105.46230			

Table 6.
Ordinary Least Squares Regressions
Dependent Variable: EOTOT
(Intercept and time dummies not shown)

Complete sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	0.117811	0.10159741	1.160	0.2477
BUROQUAL	1	0.435482	0.11793846	3.692	0.0003
RULELAW	1	0.049970	0.09804333	0.510	0.6109
TRANSACC	1	0.102834	0.13901708	0.740	0.4604

Root MSE	2.06734	R-square	0.2437	
Dep Mean	69.89592	Adj R-sq	0.1959	
C.V.	2.95774			

Central and Eastern Europe sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	-0.082889	0.13101175	-0.633	0.5283
BUROQUAL	1	0.459984	0.11534914	3.988	0.0001
RULELAW	1	0.227293	0.11690799	1.944	0.0544
TRANSACC	1	-0.691499	0.26032716	-2.656	0.0091

Root MSE	1.79167	R-square	0.1993	
Dep Mean	70.72471	Adj R-sq	0.1111	
C.V.	2.53330			

Commonwealth of Independent States sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	0.145335	0.20150826	0.721	0.4732
BUROQUAL	1	-0.371514	0.71038103	-0.523	0.6027
RULELAW	1	-0.414527	0.22898403	-1.810	0.0747
TRANSACC	1	-0.048291	0.31667961	-0.152	0.8793

Root MSE	2.23222	R-square	0.2059	
Dep Mean	68.64763	Adj R-sq	0.0658	
C.V.	3.25171			

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Table 7.
Ordinary Least Squares Regressions
Dependent Variable: SESEC
(Intercept and time dummies not shown)

Complete sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	2.026678	0.55497133	3.652	0.0004
BUROQUAL	1	-2.826511	0.68336776	-4.136	0.0001
RULELAW	1	1.679961	0.54337700	3.092	0.0024
TRANSACC	1	-3.353159	0.77717650	-4.315	0.0001

Root MSE	10.51511	R-square	0.3055
Dep Mean	85.78869	Adj R-sq	0.2565
C.V.	12.25699		

Central and Eastern Europe sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	2.377112	0.94515306	2.515	0.0137
BUROQUAL	1	-3.428571	0.89636168	-3.825	0.0002
RULELAW	1	1.797077	0.81421788	2.207	0.0298
TRANSACC	1	2.820369	2.07823949	1.357	0.1781

Root MSE	11.92846	R-square	0.3407
Dep Mean	83.15146	Adj R-sq	0.2610
C.V.	14.34546		

Commonwealth of Independent States sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	0.824202	0.47309343	1.742	0.0873
BUROQUAL	1	2.320143	1.73358869	1.338	0.1865
RULELAW	1	-0.044004	0.59808758	-0.074	0.9416
TRANSACC	1	-1.735857	0.93720034	-1.852	0.0696

Root MSE	4.88173	R-square	0.6225
Dep Mean	89.96769	Adj R-sq	0.5441
C.V.	5.42609		

Table 8.
Ordinary Least Squares Regressions with Interaction Terms
Dependent Variable: GDPPCPPP
(Intercept and time dummies not shown)

Complete sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	206.607154	279.98459566	0.738	0.4615
BUROQUAL	1	-745.781867	716.92897595	-1.040	0.2996
RULELAW	1	72.376273	404.76903844	0.179	0.8583
TRANSACC	1	27.954527	335.55211497	0.083	0.9337
CS_BQ	1	51.057937	57.33713289	0.890	0.3744
CS_RL	1	69.362877	35.93373928	1.930	0.0551
CS_TR	1	-82.238853	53.73965266	-1.530	0.1276
BQ_RL	1	-9.542072	62.56565209	-0.153	0.8789
BQ_TR	1	85.761578	110.93147244	0.773	0.4404
RL_TR	1	11.885049	74.33617181	0.160	0.8731

Root MSE	1539.28986	R-square	0.5487	
Dep Mean	4313.17073	Adj R-sq	0.5050	
C.V.	35.68813			

Central and Eastern Europe sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	1372.674337	915.58889753	1.499	0.1372
BUROQUAL	1	-4639.951928	1418.3748137	-3.271	0.0015
RULELAW	1	224.245353	1015.6415428	0.221	0.8257
TRANSACC	1	-436.190872	886.28884379	-0.492	0.6238
CS_BQ	1	-22.687917	83.31885992	-0.272	0.7860
CS_RL	1	114.021395	53.22280066	2.142	0.0347
CS_TR	1	-227.721595	127.13780872	-1.791	0.0765
BQ_RL	1	-12.780232	91.01278167	-0.140	0.8886
BQ_TR	1	615.397955	202.32368292	3.042	0.0030
RL_TR	1	-42.317376	158.11101698	-0.268	0.7896

Root MSE	1824.75678	R-square	0.5057	
Dep Mean	5164.86726	Adj R-sq	0.4111	
C.V.	35.33018			

Commonwealth of Independent States sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	-452.895607	382.93118086	-1.183	0.2408
BUROQUAL	1	5254.212184	1171.1472703	4.486	0.0001
RULELAW	1	-468.920642	423.80782953	-1.106	0.2722
TRANSACC	1	163.736318	506.49678825	0.323	0.7474
CS_BQ	1	191.972019	131.22410526	1.463	0.1478
CS_RL	1	34.722242	44.50601864	0.780	0.4378
CS_TR	1	1.627993	55.35947917	0.029	0.9766
BQ_RL	1	-458.742653	301.96176679	-1.519	0.1330
BQ_TR	1	-531.473809	276.01717013	-1.926	0.0581
RL_TR	1	186.589566	82.53558230	2.261	0.0268

Root MSE	804.70311	R-square	0.7055	
Dep Mean	3267.06522	Adj R-sq	0.6329	
C.V.	24.63076			

Table 9.
Ordinary Least Squares Regressions with Interaction Terms
Dependent Variable: GDPGROW
(Intercept and time dummies not shown)

Complete sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	1.627397	1.43660416	1.133	0.2587
BUROQUAL	1	-1.704105	3.73886308	-0.456	0.6491
RULELAW	1	-0.032785	2.04271691	-0.016	0.9872
TRANSACC	1	-2.994037	1.54478141	-1.938	0.0541
CS_BQ	1	0.488779	0.29916871	1.634	0.1039
CS_RL	1	-0.178825	0.18850139	-0.949	0.3440
CS_TR	1	-0.194963	0.27525119	-0.708	0.4796
BQ_RL	1	-0.794963	0.34236056	-2.322	0.0213
BQ_TR	1	0.571126	0.62566211	0.913	0.3625
RL_TR	1	0.502112	0.37220858	1.349	0.1789

Root MSE	8.04395	R-square	0.4421
Dep Mean	-4.40131	Adj R-sq	0.3898
C.V.	-182.76242		

Central and Eastern Europe sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	7.765683	3.23820953	2.398	0.0184
BUROQUAL	1	-0.407505	5.22462917	-0.078	0.9380
RULELAW	1	-10.823937	3.68699461	-2.936	0.0041
TRANSACC	1	-7.192029	3.05174037	-2.357	0.0204
CS_BQ	1	0.762174	0.29964632	2.544	0.0125
CS_RL	1	-0.350388	0.19568747	-1.791	0.0765
CS_TR	1	-0.967809	0.44885743	-2.156	0.0335
BQ_RL	1	-0.691493	0.34103421	-2.028	0.0453
BQ_TR	1	0.053790	0.77904298	0.069	0.9451
RL_TR	1	1.968291	0.56710596	3.471	0.0008

Root MSE	6.70112	R-square	0.5291
Dep Mean	-2.20332	Adj R-sq	0.4426
C.V.	-304.13790		

Commonwealth of Independent States sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	7.716033	3.47030349	2.223	0.0292
BUROQUAL	1	-0.122034	10.57792863	-0.012	0.9908
RULELAW	1	6.307698	3.60832986	1.748	0.0845
TRANSACC	1	-13.887164	4.59609468	-3.022	0.0034
CS_BQ	1	-0.754559	1.17152745	-0.644	0.5215
CS_RL	1	-0.191328	0.40189785	-0.476	0.6354
CS_TR	1	-0.726640	0.49493368	-1.468	0.1462
BQ_RL	1	-6.439742	2.68678657	-2.397	0.0190
BQ_TR	1	5.669569	2.51894901	2.251	0.0273
RL_TR	1	0.821198	0.73649432	1.115	0.2684

Root MSE	7.35158	R-square	0.6522
Dep Mean	-7.13712	Adj R-sq	0.5688
C.V.	-103.00493		

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Table 10.
Ordinary Least Squares Regressions with Interaction Terms
Dependent Variable: EOTOT
(Intercept and time dummies not shown)

Complete sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	0.845543	0.38747624	2.182	0.0304
BUROQUAL	1	-0.662311	0.96019058	-0.690	0.4912
RULELAW	1	-0.270780	0.49658879	-0.545	0.5862
TRANSACC	1	0.020864	0.36839227	0.057	0.9549
CS_BQ	1	0.062326	0.06418030	0.971	0.3328
CS_RL	1	0.071716	0.03508033	2.044	0.0423
CS_TR	1	-0.192074	0.06677313	-2.877	0.0045
BQ_RL	1	-0.112732	0.08007834	-1.408	0.1609
BQ_TR	1	0.192005	0.13369687	1.436	0.1527
RL_TR	1	0.055864	0.08518144	0.656	0.5128

Root MSE	2.04819	R-square	0.2811
Dep Mean	69.89592	Adj R-sq	0.2108
C.V.	2.93035		

Central and Eastern Europe sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	1.624792	0.80527259	2.018	0.0462
BUROQUAL	1	-1.818506	1.27881495	-1.422	0.1580
RULELAW	1	-1.211079	0.89051982	-1.360	0.1768
TRANSACC	1	-2.000704	0.76575367	-2.613	0.0103
CS_BQ	1	0.110003	0.06439515	1.708	0.0906
CS_RL	1	0.074731	0.03524245	2.120	0.0364
CS_TR	1	-0.334379	0.10592440	-3.157	0.0021
BQ_RL	1	-0.232918	0.07817691	-2.979	0.0036
BQ_TR	1	0.401537	0.17203433	2.334	0.0215
RL_TR	1	0.242268	0.13295301	1.822	0.0713

Root MSE	1.69755	R-square	0.3208
Dep Mean	70.72471	Adj R-sq	0.2021
C.V.	2.40022		

Commonwealth of Independent States sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	0.401742	1.13676677	0.353	0.7250
BUROQUAL	1	-1.583893	3.04325697	-0.520	0.6046
RULELAW	1	1.340484	1.03186075	1.299	0.1987
TRANSACC	1	3.185208	1.23577301	2.578	0.0123
CS_BQ	1	0.263518	0.38215273	0.690	0.4930
CS_RL	1	-0.019031	0.11483952	-0.166	0.8689
CS_TR	1	-0.050790	0.14746114	-0.344	0.7317
BQ_RL	1	0.884135	0.73307224	1.206	0.2324
BQ_TR	1	-0.868490	0.72173219	-1.203	0.2334
RL_TR	1	-0.465058	0.20774770	-2.239	0.0288

Root MSE	2.03652	R-square	0.3974
Dep Mean	68.64763	Adj R-sq	0.2224
C.V.	2.96663		

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Table 11.
Ordinary Least Squares Regressions with Interaction Terms
Dependent Variable: SESEC
(Intercept and time dummies not shown)

Complete sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	2.533181	1.88237652	1.346	0.1804
BUROQUAL	1	-9.179177	5.21939174	-1.759	0.0807
RULELAW	1	-7.366038	2.95473279	-2.493	0.0138
TRANSACC	1	-8.374211	1.94960503	-4.295	0.0001
CS_BQ	1	0.893582	0.29040893	3.077	0.0025
CS_RL	1	-0.139857	0.16670925	-0.839	0.4028
CS_TR	1	-0.403442	0.33274220	-1.212	0.2272
BQ_RL	1	-0.193849	0.39687678	-0.488	0.6260
BQ_TR	1	0.339095	0.68994875	0.491	0.6238
RL_TR	1	1.436430	0.47476691	3.026	0.0029

Root MSE	9.19882	R-square	0.4889	
Dep Mean	85.78869	Adj R-sq	0.4310	
C.V.	10.72265			

Central and Eastern Europe sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	0.054826	5.97750838	0.009	0.9927
BUROQUAL	1	-16.320885	11.61949208	-1.405	0.1638
RULELAW	1	-4.707140	8.65088050	-0.544	0.5878
TRANSACC	1	-6.855584	5.26668682	-1.302	0.1965
CS_BQ	1	0.765097	0.41475368	1.845	0.0686
CS_RL	1	-0.068653	0.22477216	-0.305	0.7608
CS_TR	1	-0.014088	0.79666740	-0.018	0.9859
BQ_RL	1	-0.159851	0.52346667	-0.305	0.7608
BQ_TR	1	1.176155	1.50502126	0.781	0.4367
RL_TR	1	1.002874	1.19510617	0.839	0.4037

Root MSE	10.76488	R-square	0.4984	
Dep Mean	83.15146	Adj R-sq	0.3981	
C.V.	12.94611			

Commonwealth of Independent States sample

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
CIVSOC	1	-1.140769	2.82984695	-0.403	0.6887
BUROQUAL	1	14.675893	13.86464119	1.059	0.2952
RULELAW	1	2.133720	5.23926280	0.407	0.6857
TRANSACC	1	-4.684670	4.22153515	-1.110	0.2728
CS_BQ	1	1.585933	0.92593979	1.713	0.0933
CS_RL	1	-0.123204	0.32995876	-0.373	0.7105
CS_TR	1	0.030179	0.42974955	0.070	0.9443
BQ_RL	1	-4.727513	3.43271010	-1.377	0.1750
BQ_TR	1	0.389957	2.12946305	0.183	0.8555
RL_TR	1	0.503983	0.76832447	0.656	0.5151

Root MSE	4.82422	R-square	0.6731	
Dep Mean	89.96769	Adj R-sq	0.5548	
C.V.	5.36217			

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