How Governance Affects the Quality of Policy Reform and Economic Performance: New Evidence for Economies in Transition

Joachim Ahrens and Martin Meurers

Department of Economics

University of Goettingen

Platz der Goettinger Sieben 3

37073 Goettingen/Germany

Tel.: +49 551 39 48 78

E-mail: jahrens@gwdg.de

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Abstract.

This paper investigates the impact of governance on economic reform and performance in transition economies. The applied concept of governance allows the identification of institutional impediments to transition in a comparative way. The empirical analysis of the concept confirms the view that governance matters. The panel data set constructed for this study allows to identify three independent governance factors, each of which can help improve the quality of policy making. Moreover, the paper provides new evidence that governance matters mainly in an indirect way by identifying a causal relationship from good governance to more effective policy reforms and a more stable and market-enhancing institutional framework, which, in turn, lead to higher investment and economic growth.

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1. Introduction

The challenges for the next decade of transition are tremendous. The proposed second generation reforms include enhanced efforts to promote liberalization and to ensure macroeconomic stabilization especially in South-Eastern Europe and the CIS as well as promoting the implementation of privatization policies throughout the region. Furthermore, it has been increasingly recognized that governments need to assume a leading role in institutional change; particularly in complementing private-sector efforts to develop market institutions, in restructuring and possibly liquidating inefficient state enterprises, in strengthening financial sectors, in establishing a market-oriented legal and regulatory framework and implementing social security systems. Besides these economic challenges, political obstacles to an effective transformation are persistent in several countries and need to be eliminated as a precondition to sustained policy reform. This not only refers to overcoming corruption, political instability and power struggles in countries such as Belarus, Georgia, Russia, and Tajikistan, but more generally, to modernizing state apparatuses in all post-socialist countries (PSCs).[1] After ten years of transition, the need for institution and capacity building eventually comes to be understood to be a conditio sine qua non for the consolidation of prior reform achievements and the initiation of further reforms.

Therefore, the agenda guiding the second generation reforms includes numerous institutional components which have been neglected or postponed during the early years of transformation.[2] In this context, institutional arrangements which need to be reformed or newly developed not only relate to the *economic* institutions of a competitive market economy such as private property rights, corporate control structures, commercial and bankruptcy laws, and liability rules. Equally important, reform needs also concern the *political* institutions that guide economic policy making, resolve social conflicts, and link the state with the business community and civil society. Especially this latter aspect raises critical questions concerning the appropriate role of the state and how to craft effective governance structures in the transition process. Basically, these questions concern a country's formal and informal

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[1]   See EBRD (2000) for a country-specific survey of key reform challenges.
[2]   Regarding the agenda for second generation reforms see, e.g., Bates (1999), Rodrik (1999), and Stiglitz (1999).

institutions and how these affect policy formation and bureaucratic implementation as well as the interconnectedness between public agencies, private business, and civil society.

Particularly in the late 1990s, substantial progress has been made in the economic analysis of institutions and institutional change. That institutional arrangements matter for economic performance and development has been always hardly controversial. Recent research, however, has been capable of pointing to answers to what kind of institutions matter and in which circumstances.[3] Recent empirical studies have not only increased our understanding of which institutions matter, but also made scholars and policy makers recognize that institutional arrangements are far more malleable than initially expected.[4] This especially holds for the PSCs which have been subject to radical and large-scale institutional change due to their simultaneous transition to a market economy and a democratic political order. For more than a decade, these countries have been searching for a new institutional matrix that is suitable to enhance the prospects of social conflict resolution and the efficiency of implementing policy reforms.

The objective of this paper is to empirically test a concept of governance that may be suitable to diagnose institutional impediments to effective policy making and implementation in a comparative way and to strengthen reform strategies in transition economies. More specifically, we seek to enhance our understanding of how governance works, i.e., through which channels it affects economic performance. In this context, it is also analyzed whether or not independent governance dimensions exist which could guide policy makers in the complicated terrain of institution building.

The major conclusion is that governance significantly matters for achieving effective policy reform and sustained economic growth. Our results, however, reject the hypothesis that good governance directly spurs economic growth. Instead, it is argued that governance affects economic performance indirectly through its impact on the quality of policy and institutional reforms.

The remainder of this paper is structured as follows: In the second section, various determinants of the economic transition path are discussed. Section three reviews the empirical literature on the importance of institutions and governance for economic policy making and performance. A concept of governance is developed in Section four, that can guide comparative politico-economic analysis and serve as an analytical foundation for

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[3] See, e.g., Lin and Nugent (1995), North (1990a and 1995), and Rodrik (1999).
[4] See, e.g., Campos (1999), Knack and Keefer (1995 and 1997), Fischer et al. (1996), and Brunetti et al. (1997a).

elaborating more effective reform strategies. This concept is empirically tested in Section five. Conclusions are given in Section six.

2. Determinants of the Transformation Path

The heterogeneous economic performance of the PSCs after the breakdown of the communist regimes motivated numerous researchers to investigate the reasons especially for the differences in economic growth rates. Most students of transition agreed that there are at least three important causes for different transition records: First, initial conditions, such as the initial level of development, geographic circumstances, natural resources and economic distortions inherited from the socialist past, could have either a direct impact on the growth prospects through different qualities and quantities of factor endowments or affect growth indirectly through path dependence in institutional change and their impact on the intensity of reforms (de Melo et al., 1996; Parker et al., 1997). A second factor is the ability of governments to conduct smooth stabilization of inflation rates and budget deficits. Especially in an environment of rapid institutional change, this has an important effect for stabilizing expectations of entrepreneurs and trade unions to provide solid grounds for investment and the prospects of growth (Fischer et al., 1996). The third determinant concerns the degree of structural reforms toward a market economy, which is reflected by the extent of privatization, deregulation, and liberalization[5]. Structural reforms represent a credible commitment toward a market economy and − after an initial phase of distortions which has to be cushioned by stabilization efforts − are expected to lead to significant efficiency gains that materialize in higher growth rates (EBRD, 2000).

A controversial issue in this context is the question of the relative importance of policies on the one hand (structural reforms and stabilization) and initial conditions on the other. De Melo et al. (1997) provide the first evidence that policies matter more than initial conditions. In contrast, Krueger and Ciolko (1998) argue that especially in the early years of transition (1989-1995) the extent of reforms negatively depended on the severity of output decline, which in turn had reflected initial conditions. Hence, reforms were endogenous with respect to early years' growth, and the effect of reforms relative to initial conditions may have been overstated. Havrylyshyn et al. (1998) and Berg et al. (1999) brought further insight in this

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[5]   These are measured by the cumulative liberalization index (CLI) by de Melo et al. (1996) which covers the period from 1990-94 and the transition indicators for liberalization and privatization from the EBRD's Transition Reports.

debate through their more elaborate studies. By employing panel data sets over a longer time frame, they find that the effects of initial conditions vanish over time[6] and that policies are the primary determinant of economic recovery.

Another controversial aspect concerns the question whether the institutional matrix of a country or governance represents an additional (fourth) factor explaining differences in transition performance or whether it is a prerequisite for successful policies. Without doubt, a market-friendly institutional environment is required for the potential efficiency gains to materialize. The question is rather whether institutional reforms themselves will *directly* spur economic performance or whether a proper institutional framework just provides the grounds for effective policy making and hence affects economic growth in an *indirect* way. The latter view raises some doubt about studies in which institutional indicators are used as the only explanatory variables for economic performance. In such studies, the institutional variables could be solely a proxy for structural reform efforts.[7] The only attempt to include institutions as an additional fourth category in empirical analyses of the transition process has been undertaken by Havrylyshyn and van Rooden (1999). They employ two indicators of the legal and the political framework and another indicator that is a condensed factor from a set of eight political, legal and economic reform indicators. In their regressions, only the legal indicator is significant at a 10% level. However, when they put increasing weights on the institutional indicators and decreasing weights on initial conditions, all institutional indicators are highly significant. But their results might be questioned in two regards: First, their selection of proxies for the institutional environment does not strictly distinguish between structural reforms and institutional characteristics, since they employ the EBRD transition indicators for both. Second, they do not control for a time trend in their basic regression, which raises the doubt that this might be the cause for the significance of their modified indicators. Moreover, from a theoretical point of view the role of institutions as a separate determinant for growth (besides stabilization policies and structural reform) seems unclear, because it is not explained how institutions could directly affect economic performance. We would rather hypothesize that if institutions or governance matter, then rather indirectly through improving the quality of policy making. This hypothesis is tested in Section 5, where we analyze the explanatory power of distinct governance factors for both economic performance in terms of growth and foreign direct investment and the progress in structural

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[6]   The statistical significance is stronger, when the indicators of initial conditions are multiplied with a declining weight. Berg et al. (1999) are even able to separate the effect of stabilization which seems to be a necessary side-condition but has a rather small impact.

[7]   An example of such studies is Campos (1999) who only uses governance variables in his regression of per capita growth and development indicators.

reforms and stabilization. But at a preliminary stage of that analysis, it appears to be useful to briefly review those empirical studies which have used a coherent conceptual framework to assess the impact of institutions and governance on economic performance and transition.

3. Institutions, Governance, and Economic Transition

The challenging task of the new growth theory was to explain cross-country differences in per capita income and growth which do not result from changing patterns of factor accumulation. It has been recognized that at least part of this residual can be explained by differences in the efficiency of resource allocation that are the consequence of the success or failure to build appropriate institutions for coordination processes within a society (Olson et al., 2000; Rodrik, 1997). This 'missing ingredient' is of particular importance for studying the economic performance of countries which are at the onset to capitalize from the welfare gains of decentralized production and coordination through markets, such as less developed countries (LDCs) and economies in transition.

There is a growing empirical literature documenting the relationship between institutions or indicators of various aspects of governance and economic outcomes. In the past decade, cross-country studies including LDCs and PSCs confirmed the view that institutions matter for economic performance, i.e. they explained a significant portion of the variance in per capita growth and investment across countries and in panel data sets.[8] However, a closer look at these studies reveals that there is no common notion which aspects of institutions are ultimately responsible for this outcome. In most analyses, one or a small number of indicators is employed that are presumed to measure the quality of the institutional environment.[9]

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[8] See, e.g., Mauro (1995) on how corruption affects investment and economic growth; Knack and Keefer (1997) regarding the importance of formal and informal institutions for economic growth; Rodrik (1997) on the role of institutions in the success of East- Asian catch-up processes; and Hall and Jones (1999) on the relationship between levels of per capita income and a measure of what they call 'social infrastructure'.

[9] Such indicators are obtained either from professional agencies like ICRG (International Country Risk Guide), BERI (Business Environmental Risk Intelligence) or Freedom House, from business surveys or from constructed measures calculated by the authors themselves.

Some of these indicators are very broad concepts, that raise additional conceptual and measurement problems and can hardly be operationalized. Others are too narrow to capture the complexity and the complementarity of institutional features. Often, only indirect measures of institutions like policy outcomes or business customs are used as explanatory variables instead of measures of the institutional provisions that lead to these outcomes. Examples of very broad and rather outcome-oriented measures of institutions are the indicators of political instability (e.g., the number of coups and political assassinations) that Barro (1991) and Barro and Sala-i-Martin (1994) employ in their pioneering growth study of 97 countries and the corruption indices Mauro (1995) and others use in explaining growth and investment flows. Moreover, in most cases, measures of institutions are considered that touch upon a specific realm of coordination only. Typically, the focus is on the coordination of private interests, which can be seen from the widespread use of indicators for the 'security of property rights' (Knack and Keefer, 1995; Olson et al., 2000). More recently, the perspective has been shifted to the coordination between private entities and public authorities and the coordination and decision processes within the political sphere. For example, Brunetti et al. (1997a and 1997b) employ the results of a worldwide business survey, that evaluates inter alia 'government efficiency in delivering services ' and 'predictability of judiciary decisions', and Henisz (2000) looks exclusively at 'political constraints' that public authorities face in their decision process.[10]

Despite the increasing number of empirical studies dealing with the impact of institutions on economic performance in LDCs and PSCs, there are only a few studies which are explicitly based on a distinct, well-defined analytical concept of governance. Only recently and mainly motivated by the World Bank's (1992) study *Governance and Development*, the attempt was made to look for a comprehensive characterization of the institutional environment and to conceptualize the various aspects of governance. Most prominent among these studies are Campos and Nugent (1999) and Campos (1999) as well as Kaufmann et al. (1999a and 1999b).

Starting from the World Bank's (1992: 1) definition of governance, i.e. "the manner in which power is exercised in the management of a country's economic and social resources for development", these studies develop their own governance concepts. Campos and Nugent (1999) and Campos (1999) argue that governance shows five institutional components including the executive branch of government, the bureaucracy, the rule of law, the character

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[10] Further works dealing with specific realms of coordination (such as the financial sector, corporate control structures, the privatization of state enterprises, and central bank independence) include Keefer (1999), Berglof and von Thadden (1999), and McKinnon (1991).

of the policy-making process, and civil society. Kaufmann et al. (1999a: 1) define governance "as the traditions and institutions by which authority in a country is exercised." This not only includes the process of selecting, monitoring, and replacing governments and government capacity to successfully formulate and enforce sound policies, but also the respect of both the state and citizens for those institutional arrangements which govern social and economic exchange among them. Based on this definition, they propose a concept including six governance clusters: (1) voice and accountability; (2) political instability and violence; (3) government effectiveness; (4) regulatory burden; (5) rule of law; and (6) graft.

The above authors proceed by identifying institutional variables that are assumed to reflect their hypothesized governance dimensions. Campos and Nugent (1999) select individual indicators for each dimension that show low correlations to indicators of the other dimensions. Campos (1999) constructs governance indicators by averaging and interpolating over groups of institutional variables that seem to be proxies for his dimensions. The most elaborate method is applied by Kaufmann et al. (1999a and b) who condense about 300 individual indicators into six governance clusters by means of an unobserved component model[11]. Both groups of authors basically support the results of earlier analyses of the impact of institutions on economic performance. The primary progress in research is that they are able to systematically analyze the role of institutions within a coherent governance concept[12].

Our approach is similar to those used by Kaufmann et al. (1999a) and Campos and Nugent (1999) in terms of defining and conceptualizing governance. Like the former studies, we also recognize that governance indicators are clearly multidimensional and that it is political institutions which are at the heart of governance problems. This is why we use numerous different indicators in the subsequent empirical analysis, each reflecting different characteristics of governance, and build our analysis on a panel data set in order to account explicitly for changes over time. We also agree with Campos and Nugent (1999: 440) in stating that "it is the potentially dynamic character and comprehensiveness of governance characteristics that give the concept of governance such relevance and importance for development economics. (…). [Therefore] the various characteristics have to be tested collectively and in a context in which they may have changed considerably over time." Especially the last argument makes it a worthwhile endeavor to test our governance concept

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[11]   The methodology is described in a companion paper, Kaufmann et al. (1999b).
[12]   Campos and Nugent (1999) and Campos (1999) make the extension, that they relate a set of social
        development indicators, like literacy and infant mortality, to their governance indicators and additionally
        assess complementarity and substitutionality of their respective governance dimensions.

for economies in transition which have undergone substantial institutional change during the last decade.

Our study distinguishes itself from, complements, and extends the former in several ways: First of all, we *do not a priori* classify our institutional indicators into separate governance clusters. In selecting the institutional indicators that seem to capture best the dimensions of governance, Kaufmann et al. (1999a) as well as Campos and Nugent (1999) rely on the *labels* of the indicators, although the *content* of most indicators could in principle relate to several of the governance dimensions. In Section 5.1, we incorporate this critique into our empirical analysis of governance, where we employ factor analysis techniques to distill the independent forces underlying our set of indicators before interpreting any relationship between institutional variables and governance dimensions.

Second, and related to the foregoing, we consider explicitly the notion inherent to any governance concept that governance dimensions may capture separate and hence possibly independent factors of the institutional environment[13]. The statistical method that we apply scrutinizes whether or not the conceptually derived governance categories can be actually regarded as being independent from one another. If one can identify such independent dimensions from the observable institutional data, it could be concluded that policy makers can choose between different policy options if they seek to enhance governance quality. Moreover, such independent dimensions offer an appropriate pointer to assess whether governance dimensions serve as substitutes or complements with respect to economic performance.[14]

Third, the conceptual approach, we propose in Section 4, is built on four general though distinct characteristics of governance-related institutions and does not refer to *outcomes* of good or bad governance (such as 'political instability', 'violance', or 'graft') as does the study by Kaufmann et al. (1999a). Similarly, Campos and Nugent (1999) and Campos (1999), who refer to distinct characteristics of good governance (accountability, high bureaucratic quality, open and transparent political processes, and participation in public affairs), mix together *actors* (i.e., the executive, the bureaucracy, civil society), *processes* (i.e., the policy-making process), and *outcomes* (i.e., rule of law). In our view, this may be misleading because in their framework the institutional characteristics are exclusively assigned to distinct players or realms of governance. Why should only the executive branch of government be accountable

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[13]   As Campos (1999: 15) explains: "A low and statistically insignificant correlation will suggest that two underlying variables capture different institutional characteristics of governance."

[14]   In this context, it should be noted that dependent, i.e. correlated, governance measures, like the ones employed by Campos (1999) and Campos and Nugent (1999), show a at least a tendency to appear as complements.

for its policies? What about the accountability of the bureaucracy, the judiciary, or the legislature? What role plays the predictability of policy making? Furthermore, shouldn't the legal framework be as transparent as the process of policy making?[15]

Fourth, in selecting governance indicators, we primarily focus on those which show a 'political' dimension.[16] Although this seems to be a simplification at first glance, this restriction is useful for our purposes. It is largely uncontroversial that economic institutions such as liability rules, bankruptcy laws, and corporate-control structures among others constitute crucial elements of a country's governance structure. But all these institutions can be basically crafted by fiat. The relevance of economic institutions for transition points to deeper questions: Which factors shape the emergence of these institutions? And which characteristics of the polity can ensure their enforcement? Theoretical reasoning and case studies have found that it is primarily the existence and enforcement of appropriate political institutions (their structure and the incentives they provide) which determine whether or not economic institutional arrangements (if they exist de jure) are de facto enforced and hence actually unfold their governance-enhancing effects.[17] In our study, economic institutions are rather regarded as pivotal components of economic reform programs the efficacy of which depends on the quality of political governance.

4. The Conceptual Approach: Dimensions of Governance

In order to avoid mixing processes, actors, and results of governance-related policy action, the conceptual underpinning of this study follows a Northian approach to institutions. Accordingly, institutions are regarded as the rules of the game in an economy and a society,

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[15] Another argument that governance concepts should not postulate or rely on specific policy instruments or outcomes is that economists have become increasingly aware of the fact that *different* institutional arrangements can serve as *substitutes* in some respects. For example, starting from the premise that constitutional protection of private property rights represents a key aspect of societal governance, Drobak and Strube (2000) argue persuasively that, although courts in different countries apply different legal and regulatory provisions, the results concerning the protection of property rights are almost the same. Similarly, economists found that distinct (sets of) institutions such as the rule of law, which are generally assumed to be unalterable components of effective governance, are not necessarily required to enhance governance quality at a particular stage of economic development. Bai et al. (2000), e.g., argue that private businesses have enormously thrived in China despite the fact that China has weak institutional safeguards (e.g., concerning the separation of powers and the rule of law) which could prevent the government from arbitrary intervention in private economic activities. They claim that other institutional arrangements such as information decentralization and especially 'anonymous banking' have served as substitutes.

[16] In this context, political institutions are defined as those formal rules and informal constraints (including their enforcement characteristics) that affect political decision-making processes in the course of economic development and transition; see North (1990a), Kiewiet and McCubbins (1991), and Dixit (1996).

[17] See, e.g., Keefer (1999) and North (1990b).

"the humanly devised constraints that structure human interaction. They are made up of formal constraints (e.g., rules, laws, constitutions), informal constraints (e.g., norms of behavior, conventions, self-imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies." (North, 1994: 360)

Organizations, such as political parties, the government, the legislature, business firms, trade unions, and civic organizations, are the players, which choose their actions according to their preferences and the institutional constraints that they are confronted with. Based on the notion that it is institutions which primarily shape economic and political exchange and determine the formation of policies, we define governance as

the capacity of the formal and informal institutional environment (in which individual actors, social groups, civic organizations and policy makers interact with each other) to implement and enforce public policies and to improve private-sector coordination.

According to this definition, governance is a means to implement and enforce feasible policies. But in its concrete form, a governance structure, i.e. the underlying institutional environment (comprising formal and informal political, economic and social institutions) as realized in a particular country, may promote the transition toward a market-oriented economic order or impede the systemic transformation. A governance structure affects the incentives of politicians, legislators, bureaucrats, and private economic agents alike and determines the terms of exchange among citizens and between them and government officials. Thus, the capacity of a governance structure not only plays a critical role concerning private sector development and coordination, but also with respect to the formation, implementation, and enforcement of economic and social policies. Regarding the problems of initiating, implementing and sustaining government policies, the *political institutions* of a country's governance structure play a dominant role, because they determine how different actors are involved in political processes, what kinds of economic reforms are politically feasible, and how the behavior of individual actors is shaped (North, 1990b).

Actual governance structures are based on countless formal and informal institutional mechanisms that guide policy making and implementation. Since the number of relevant mechanisms is extremely large, various mechanisms are of different importance in different countries, and some of the 'true' explanatory variables of governance are unobservable, conceptual and cross-country statistical analyses need to rely on proxy variables to measure the efficacy of a country's governance structure. In order to systematically find adequate proxies, we seek to reduce the complexity of actual governance structures by identifying separate dimensions of governance which reflect the quality of a country's institutions. Therefore, we start with the premise that rules, which ought to enhance the quality of policy

making, need to show distinct characteristics: (1) they must be clearly defined over a sufficiently large domain of possible events and economic agents must be confident that they are properly enforced; (2) political and economic actors must know and understand the rules and be able to recognize whether or not they are observed; (3) the set of rules must be sufficiently flexible to allow for institutional change if preferences, technological conditions, or specific societal needs change over time. This also presupposes the existence of various channels through which individual actors or groups can initiate and contribute to institutional reforms; and (4) institutional safeguards must be in place that hinder powerful political and economic actors to arbitrarily circumvent or change existing rules at the expense of other actors or society as a whole.

These four characteristics can be subsumed under four dimensions of governance that comprise *predictability*, *transparency*, *participation*, and *accountability*. Hence, if one can identify proxies that measure the quality of any given country's institutions along these dimensions, this would indicate the efficacy of this country's governance structure. All of these key principles are required for the sound management of public resources, an enabling environment for the private sector and a productive partnership between the public and private sector, that does not degrade into closed circles of influence and privilege. Governance provides the overall perspective from which these principles are derived.[18] A governance structure is *effective* if it ensures that government policies are properly implemented, that private businesses can thrive within a given legal and regulatory framework, which is not subject to arbitrary political interference, and eventually that the adaptive efficiency (in the Northian sense) of both the polity and the economy is enhanced.

In the next section, we investigate (1) whether the available data support the assumption that these presumably independent governance dimensions actually exist; (2) whether these dimensions affect economic performance, and if so, (3) what are the channels of influence. The answers to these questions are expected to help identify different policy options that may be available to political decision-makers in institution building during transition, to help economic actors and civic organizations in finding appropriate ways to react to government

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[18]   For a discussion of these principles and the corresponding imperatives for institution building see Root (1995).

policies and to participate in their formation, and finally to help international organizations in incorporating governance-related aspects into their country programs and projects.

5. Measuring the Impact of Governance on Economic Transition

Based on the conceptual considerations, the aim of the subsequent empirical analysis is twofold: First, factor analysis techniques are employed to empirically identify distinct dimensions of governance (Section 5.1). Secondly, we investigate the channels through which governance actually affects economic performance, i.e. whether it has a direct impact on private investment and economic growth or an indirect impact through enhancing the quality of policy making (Section 5.2).

5.1 Towards a Less Subjective Approach to Aggregating Governance Indicators

Governance reflects the quality of fundamental characteristics of the institutional environment. Unfortunately, this information is not directly observable. Hence, researchers who seek to apply a concept of governance face the problem to match individual institutional indicators, that are designed to provide specific information (e.g., the climate for investment in a country or the degree of democratization) with rather comprehensive governance dimensions. Basically, we recognize three problems why the constructed measures from individual indicators might be severely biased and only represent fuzzy proxies for true governance dimensions: First, the professional agencies as the main providers of data focus only on specific aspects of the institutional environment that usually serve the particular interest of foreign investors. Moreover, due to this 'business orientation', the rankings of these experts are potentially biased by the perception of overall economic performance.[19] Second, since the experts may not have a distinct governance concept in mind, when they evaluate institutional characteristics, their indicators might be a linear combination of the presumably independent dimensions that a governance concept aims at. Third, a point that has not been noted yet, since governance dimensions might represent policy domains, so that governments and society as a whole explicitly or implicitly decide in which of the dimensions

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[19]   As Mauro (1997: 83) noted: "the consultants' judgment that form the basis of these indices may be influenced by the economic performance of the countries they monitor. Thus, researchers who use such indices must be extremely cautious in asserting a causal relationship between corruption and any economic variables found correlated with."

they want to improve their institutional capacity, true governance scores are likely to be correlated across countries and time. These three objections lead to the conclusion that, even if independent true governance dimensions exist, there is only a limited scope to recover those dimensions from the observed data.[20]

Consequently, two implications for further research on governance in transition countries emerge that are to be taken into account: First, we assembled as many indicators as were available to us for 26 transition countries over the past decade. A panel data set of altogether 42 institutional variables avoids too much correlation in our matrix of observable indicators.[21] Second, unlike earlier studies, we avoid any a-priori judgment regarding the classification of the indicators into individual dimensions of governance. Because of the presumably high correlation of the ranking methodologies and the frequent case that indicators capture several dimensions of governance, any a-priori orientation based on the 'labels' of the indicators is deemed to produce statistically indistinguishable dimensions of governance.[22] In order to put the search for independent governance dimensions at the center point, we seek to let the data talk and apply a multi step factor analysis procedure.[23] Since most data series cover only certain points of time within the period from 1990-1999, we proceeded with subgroups of sufficient observations and applied a final reduction of dimensions of the factors from the respective subgroups. We arrive at three factors that basically cover the period from 1992-1998 for 24 countries (due to insufficient data for Bosnia and Herzegovina as well as Croatia). As a guideline for the interpretation of these factors, we look at the Spearman-rank-correlations between the factors and the employed indicators. Table 1 displays only those

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[20] This reasoning can be expressed more formally in terms of linear algebra. A starting point, e.g., for four independent governance dimensions is a four by four identity matrix. This is transformed into the matrix of true governance scores across countries and over time trough multiplication by a 4xk Matrix, e.g. S, where k equals the number of countries times the number of periods. The way these governance scores carry over into the huge set of institutions and the way ranking agencies combine their perception of these institutions into their indicators can be expressed by another two matrices, for example U and P, respectively. The finally observed indicators can be then expressed as $O = P \cdot U \cdot S$. A well-known proposition from linear algebra tells that $Rank(A \cdot B) \leq \min[Rank(A), Rank(B)]$. Hence, the correlation of strategies across countries and time and the correlation of perceptions of ranking agencies are very likely to reduce the dimensionality of the observed indicators to less than four.

[21] Regarding the sources for these indicators see Table A2 in the appendix.

[22] For example, Campos (1999) who proceeds this way obtains governance measures that display pair-wise correlations between 0.61 and 0.72.

[23] See the appendix for a more precise description of the methodology.

variables which are useful for a proper interpretation, i.e. those indicators which are not significantly correlated with all three identified factors.

[Table 1 about here]

In order to relate the factors to our hypothesized dimensions of governance, we primarily look at variables that are highly correlated (at the 5% confidence level) with only one of the factors and additionally compare the sets of variables the three factors are correlated with. The variables that are uniquely correlated with the first factor are 'executive recruitment regulation and competition', 'legislative effectiveness', 'Gastil political and civil rights', and 'loan default'. Since many of these indicators are intended to characterize the participation of private interests in the political process and the restrictions that private entities are able to execute upon the polity, we interpret the first factor to capture what we call *participation* in our concept. The variables that are strongly correlated only with the second factor include 'ethnic tensions,' 'political leadership', 'political terrorism', 'the number of veto players in government', 'the number of veto players in opposition', and 'delayed payments'. The first three variables seem to capture what former studies described as political (in)stability. As we have argued in Section 4, this relates to our dimension *accountability*, which is empirically supported at this point by the latter three variables. Unfortunately, the data do not provide enough evidence for a clear interpretation of the third factor. There is only one variable (i.e., 'changes in effective executive') that is uniquely correlated with this factor. Also, variables like 'repudiation of government contracts' and 'expropriation risk' are correlated with this factor, which leads us to tentatively interpret this factor to cover *predictability*. However, we have some reservations with this assignment, since the frequency of changes in the executive might be also an indicator of *institutional inertia* which perverts our intended meaning of predictability as clearly defined and properly enforced rules.[24]

The remaining question is how institutional aspects of *transparency* are related to these three *empirical* dimensions of governance. The variables which we would a-priori suggest to reflect different degrees of transparency ('legislative competitiveness', 'political cohesion', and 'corruption in government') are all jointly correlated with the first two factors. This result parallels the analysis of Campos (1999: 8) where he argues that "(t)he relevance and strength of [the characteristics 'accountable executive' and 'participation of civil society'] … are

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[24] Note that no change in the executive may reflect the continuation of an illiberal, authoritarian regime that opposes any improvements in governance quality. However, this cannot not be interpreted as a kind of 'predictability' that enhances the quality of policy making.

increased when the policy-making process is characterized by a high degree of transparency". From our result we conclude that transparency does not constitute an independent dimension of governance, but that it rather exists as a close complement to participation in the form of a transparent political process as well as a complement to accountability in the form of transparent sanction mechanisms.

If the correlations in Table 1 are taken seriously, we can translate backwards the reform process as perceived by the ranking agencies into our fundamental view on institutions. For example, if a country's expropriation risk is downgraded, then we can conclude that there must have been reform efforts regarding the institutional environment (most likely through legal provisions) that increase the accountability and predictability of private and public decision makers; or that a higher score on political rights is achieved through improved participation of individual actors and interest groups.

For the further investigation, it is instructive to explore the relation of the average governance rankings and the economic performance in the first decade of transition. To get a first rough impression, the sample is split into economic high performers (such as Slovenia, Poland, the Czech Republic, Hungary and the Baltic States) and countries with a more moderate economic record.

[Figure 1 about here]

On average, the economic high performers also have better governance provisions. The ambiguity of our measure for the dimension 'predictability' (the third factor) also appears in Figure 1: Hungary, Slovakia, and the Czech Republic have rather low scores for 'predictability', whereas the Ukraine and Uzbekistan take the top ranks. Of course, these ambiguities imply that the factor analysis does not yield fully satisfactory findings. However, it would be beyond the scope of this paper to further investigate these ambiguities. We rather regard this indistinctness as an incentive for further theoretical research and the collection of more meaningful data that reflect 'true' governance characteristics. Therefore, we do not regard the interpretation of governance dimensions as definite but rather as indicative, since it still suffers from the imprecision of the employed indicators to fully reflect fundamental institutional characteristics, i.e. the 'true' governance characteristics of a given country. But after all, the factor analysis represents an adequate step to extend the recent empirical research to find a definite categorization of governance dimensions.

5.2 Governance – An Additional Determinant of Economic Performance?

In order to address our second empirical question, i.e. through which channels governance affects economic performance, we carry out panel data regressions to investigate the differences across the 24 transition countries in their growth and investment paths over the period 1992-1998. As an indicator for investment behavior we choose foreign direct investment (FDI), because it is of special importance for countries in transition. It not only alleviates the transition specific shortage of savings, but also promotes the technology transfer and the restructuring of the economy, which are both indispensable for accelerating the convergence to developed market economies. Moreover, since foreign investors have alternative opportunities all over the world, FDI flows represent an appropriate indicator reflecting the 'desire to invest' in a particular country. In this context, the quality of reform policies and the institutional environment are key determinants of a given country's attractiveness for FDI (Selowsky and Martin, 1997).

Following the standard set-up in the empirical investigation of the influence of institutions on economic performance in the context of transition economies, we start from a basic specification, by which we seek to explain per capita growth rates and FDI per GDP by three conventional sets of variables measuring structural reforms, stabilization policies, and initial conditions. For structural reforms (*STRUC_REF*) we use the cumulative liberalization index (CLI) by de Melo et al. (1996), which can be extended over the whole sample period by linking it with the EBRD's transition indicators for liberalization and privatization.[25] As an indicator for the success of stabilization (*STAB*) we consider the percentage change of the inflation rate.[26] In order to account for initial conditions, we use the two principal components from de Melo et al. (1997); the first measures the degree of macroeconomic distortions at the beginning of transition, the second reflects the level of economic development (including the effects of socialist over-industrialization). Furthermore, the results of Berg et al. (1999) and Havrylyshyn and van Rooden (1999) are taken into consideration, who find initial conditions to be more significant when the are modeled to decline over time. Therefore, we define $INC1_t = INC1_0 / \sqrt{t}$ and $INC2_t = INC2_0 / \sqrt{t}$. In addition to former specifications of the growth equations, we also include the change in per capita investment as a measure for factor

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[25] See the appendix for details on linking the data sets provided by de Melo et al. (1996) and the EBRD transition indicators.

[26] Since budget deficits and high inflation rates are usually positively correlated, we regard it as sufficient to concentrate on one variable only. A cross-section analysis yields that the reduced variance in inflation dominates measures of budget stabilization in its significance for both growth and FDI.

accumulation.[27] Although the effect of the three conventional factors might still be dominant, it seems to be appropriate to allow at least for a slowly increasing influence of the quantities of factor inputs.[28] A further aspect, which has been recognized in earlier studies, is the possible endogeneity of institutions and policies with respect to economic performance.[29] Hence, in order to avoid the possible bias through simultaneity, we consider only lagged institutions and policies. Finally, as common in earlier studies, we consider a *TENSIONS* dummy for regional tensions in Armenia, Azerbaijan, Georgia, Tajikistan in the period from 1990-1995 in both equations and a dummy for Azerbaijan in the FDI specification.

The complete basic set-up for our OLS-regressions of the performance variables without time trend and dummies is as follows:

$$Growth_{t,i} = const + \alpha_1 \Delta(i_{t,i} - n_{t,i}) + \alpha_2 STRU\_REF_{t-1,i} + \alpha_3 STAB_{t-1,i} + \alpha_4 INC_{t,i} + \alpha_4 INC_{t,i} + \varepsilon_{t,i}$$

$$FDI_{t,i} = const \qquad\qquad + \beta_2 STRU\_REF_{t-1,i} + \beta_3 STAB_{t-1,i} + \beta_4 INC_{t,i} + \beta_5 INC_{t,i} + \varepsilon_{t,i}$$

Regarding the structural coefficients in both equations, we would expect α_1 (the elasticity of output with respect to capital) to be positive but smaller than one. With respect to the other coefficients, α_2 and β_2 should turn out to be positive due to the expected positive effect of structural reforms on growth recovery and investment behavior, α_3 and β_3 to be negative, because an increase in the inflation rate as an indicator for expected price instability would distort factor allocation, and α_4 and β_4 to be negative, because initial macroeconomic distortions raise the cost of stabilization. The signs of the coefficients α_5 and β_5, however,

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[27] This can be justified on the following grounds: Starting from a constant returns to scale Cobb-Douglas-production-function in logarithmic form: $y_t = \alpha \cdot n_t + (1-\alpha) \cdot k_t$, differentiation yields $\Delta(y_t - n_t) = (1-\alpha) \cdot (\Delta k_t - \Delta n_t)$, and assuming a constant rate of capital accumulation $d = \dfrac{K_{t+1} - K_t}{K_t}$ with gross investment $I_t = dK_t + \rho K_t$, where ρ is the depreciation rate, the logarithm of gross investment turns out to be $i_t = k_t + \log(d + \rho)$. Hence the per capita growth rate can be expressed through $\Delta(y_t - n_t) = (1-\alpha) \cdot (\Delta i_t - \Delta n_t)$.

[28] This seems to be justified if one looks at sufficiently long periods after the beginning of the transition. As Selowsky and Martin (1997: 349) note: "As time passes, one would expect the share of growth derived from improved resource allocation to diminish gradually. Growth will be determined more by physical- and human-capital accumulation."

[29] See, e.g., de Melo et al. (1997) and Krueger and Ciolko (1998). Chong and Calderon (2000) find that there also exists a reverse causation running from growth to institutional development. This effect, however, seems to operate through a relative short period compared with the effect of institutions on economic performance we are concerned with. Therefore, the use of lagged institutions seems to be in order to increase the likelihood to capture only the effect we are interested in.

are not clear ex ante. A high level of initial development can include developed institutions and a complex political apparatus that both provide capacity for a smoother institutional and economic transformation, indicating positive signs. However, high development in terms of socialist countries may also reflect a high degree of over-industrialization and a rather rigid bureaucracy, that is likely to have a negative impact on factor productivity and would lead to negative signs (de Melo et al., 1997).

The results of the OLS-regressions for our basic specifications are as follows:

$$Growth_t = \quad \begin{array}{cccc} -0.071 & -0.002*trend & +0.01*TENSIONS & +0.085*(\Delta i_t - \Delta n_t) \\ (-3.23^{***}) & (-0.88) & (0.02) & (3.21^{***}) \end{array}$$

$$\begin{array}{cccc} -0.029*INC1_t & -0.081*INC2_t & -0.012*STAB_{t-1} & +0.136*STRU\_REF_{t-1} \\ (-2.12^{**}) & (-1.01) & (-3.68^{***}) & (5.27^{***}) \end{array}$$

$N=118, \quad Adj. \ R^2=0.46, \quad DW\text{-}Stat.=1.30$

$$FDI\_GDP_t = \quad \begin{array}{cccc} -2.68 & +0.431*trend & -1.701*TENSIONS & +19.998*AZB \\ (-3.26^{***}) & (3.31^{***}) & (-1.65) & (6.84^{***}) \end{array}$$

$$\begin{array}{cccc} -0.022*INC1_t & -2.173*INC2_t & +0.060*STAB_{t-1} & +3.939*STRU\_REF_{t-1} \\ (-0.52) & (-1.28) & (0.44) & (4.54^{***}) \end{array}$$

$N=132, \quad Adj. \ R^2=0.71, \quad DW\text{-}Stat.=1.17$

White Heteroskedasticity-Consistent t-Statistic in parenthesis, *** significant at a 1% level, ** significant at a 5% level, * significant at a 10% level. $\Delta i_t - \Delta n_t$ represents the annual change in the natural logarithm of investment per capita.

In the growth equation, the impact of the three commonly used factors (structural reforms, stabilization, and initial conditions) on economic growth is confirmed through significant coefficients, with the exception that the level of socialist development ($INC2_t$) is not significant.[30] Apart from this, neither regional tensions nor a time trend seem to play a role in our specification. The dynamics in factor accumulation, a variable that was neglected in former studies, seems to be an important factor, however. The estimated elasticity of output with respect to capital is about 0.10 and quite low compared to other studies (e.g., Olson et al., 2000) who obtain about 0.50 in their estimation across 68 countries). A reason for this might be that factor accumulation plays a primary role for economic growth only in a small fraction of the transition economies. The development of the FDI share in GDP across countries is explained by a positive trend, structural reforms and the Azerbaijan dummy and does not depend on initial conditions. The low Durbin-Watson-statistic in both equations points to

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[30] Havrylyshyn et al. (1998) obtain a contrary result in a similar specification. They find significance of initial socialist development only. A reason for our result might be, that the level of development is at some degree captured by changes in investment per capita (the factor accumulation term).

serial correlation, such that including lagged explanatory variables seems to be appropriate. It is rather obvious that serial correlation is present in both equations, because it is very likely that there are shocks to growth that are correlated over time and that investment projects may take several periods to be implemented (Selowsky and Martin, 1997). When lagged dependent variables are included (see columns (1) and (5) in Table 2), the only major changes that occur in the growth equation are that the time trend gets significant, whereas initial macro-economic distortions lose their significance. This change can be expected since the adverse effect of distortions is now fully incorporated into the growth rate of the former period. In the FDI equation the tensions and Azerbaijan dummies slightly increase their significance at the cost of the significance level of all other variables. In both equations, the coefficients on stabilization and structural reforms are reduced in their magnitude, which is simply consistent with the notion that the former equations rather measured the 'long-run impact' of these variables.

[Table 2 about here]

As an instructive experiment, we additionally ran the following two sets of regressions: In the first, we regressed the same dependent variables only on our governance factors (including a time trend, the lagged dependent variable, and dummies), and in the second, we additionally included the governance factors in the basic specification. The results of the first experiment are displayed in columns (3) and (7) of Table 2. Overall, the coefficients of the fundamental components in both equations, the change of per capita investment and lagged growth and FDI remain roughly the same. The value of the time trend in both equations is slightly increased what can be explained through a compensation for the strong trend in the omitted variables, i.e. stabilization and initial conditions. The results for the governance factors are even more instructive: In the growth equation, the factors for 'participation' and 'accountability' are significant at a 5%- and 1%-level and, as the comparable regression without governance in column (2) shows, governance is responsible for a 3% increase in the explained variance (as measured in adjusted R^2). In the equation for FDI, 'participation' is also significant at a 5% level, whereas 'accountability' has the expected sign but is not significant. 'Predictability' is also insignificant and even carries a negative sign. The reservations (expressed above) that this factor may also be a proxy for institutional inertia is a possible explanation for this result. Governance is responsible for only a 1% increase in the explained variance in the dynamic FDI specification (compare with the rudimentary

regression in column (6)). However, the estimated long run effect of governance on both variables is stronger, if one omits lagged adjustment. This is indicated by a difference in explained variance of 10% for growth and 8% for FDI between estimation results without lagged explanatory variables. The results from the first part of the experiment confirm the findings of Kaufmann et al. (1999a), Campos (1999), and Campos and Nugent (1999), i.e. that governance matters for economic performance. However, these works do not consider the second part of the experiment, i.e. to let governance variables compete with the conventional determinants such as initial conditions, structural reform, and stabilization policies. The results from this specification (see columns (4) and (8) in Table 2) point at severe problems of multicollinearity between governance on the one hand and reform and stabilization policies on the other, since both groups are individually significant but lose significance when included simultaneously. This clearly contradicts the proposition raised by Havrylyshyn et. al (1998) that governance measures constitute a separate determinant of economic performance. This observation raises the question whether any of the groups can be identified as the cause of the other or whether they are determined simultaneously.[31] In order to clarify the point, a causality test is carried out. We test whether the values of one group of variables cannot only be explained by their own lagged values but also by the lagged values of the other group (see Table 3).

[Table 3 about here]

The results of the test indicate that the three governance factors help to explain structural reforms and the development of the inflation rate (since zero coefficients on these variables are strongly rejected), whereas these policy variables do not cause the development of governance structures. We interpret this result as follows: Governance structures do not depend on the policies carried out; on the contrary, governance can be considered as an explanatory variable for policies.[32] Hence, governance is by no means only a proxy for reform

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[31] Dethier et al. (1999: 12) claim that "causality may run both ways". But they do not provide any arguments for this presumption. They conduct a regression of structural reforms on lagged reforms and contemporaneous institutional variables that capture political freedom and political constraints. The contemporaneous institutional variables get insignificant when they are instrumented by lagged institutional variables. From this result, they conclude that there exists a simultaneous relationship between structural reforms and institutional progress. This is only one possible option. The alternative, that we analyze in more detail, is that there may exist a causal relation in the sense that the institutional environment is a causal factor for reforms.

[32] This conclusion is based on the hypothesis, that in the unknown structural dynamic model both the stabilization and reform progress and the governance structure depend on their level in the former period and that past reform progress does not have a negative effect on present governance structures. More formally, if the joint dynamic model of a governance and a policy variable (g and p) can be expressed as

progress. Governance variables themselves represent policy variables that can be politically influenced to help enhance the quality of structural reforms and stabilization. This hierarchy leads to the final conclusion that due to the insignificance of governance as an additional explanatory factor in the performance equations, governance does not directly affect economic growth and investment. Rather, it shows an indirect impact on economic performance through improving policies.

This raises the question to what extent the reform process and stabilization policies can be explained through improved governance and which governance dimensions matter most. In this context, only very few references are available which investigate the impact of institutional quality on structural reforms. De Melo et. al (1997), e.g., use initial conditions clusters to assess the impact of initial conditions on the annual reform progress (measured by the liberalization index) and also include an index of political freedom (by Freedom House) as an additional explanatory variable, which proves to have the highest explanatory power.[33] Dethier et al. (1999) extend this analysis by including indicators for 'political stability' and 'fragmented governments', where only the former has an additional significant impact on the liberalization process. But both papers focus only on political institutions and employ a very limited number of variables.

Like these authors, we consider initial conditions as control variables as well as the tensions dummy. In addition, the governance factors identified in Section 5.1 are included. A priori, one would expect unfavorable initial conditions to have a negative impact on the reform process (de Melo et al., 1997). In Table 4, the results are displayed for the analysis of the effect of governance on structural reforms. Similar to de Melo et al. (1997), the analysis is carried out with the annual reform achievements. In regression (1), current reform progress depends negatively on the level of reforms achieved in the past. This seems to be a reasonable relation, if one assumes that structural reforms must be completed one time and that every reform step hence limits the scope for further reforms. Interestingly, there is an autonomous trend to slow down the reform process. The initial level of distortions and the level of socialist development (although they are modeled to play a decreasing role) continue to push against

$$A \cdot \begin{pmatrix} g \\ p \end{pmatrix}_t = B \cdot \begin{pmatrix} g \\ p \end{pmatrix}_{t-1} + D_t + \begin{pmatrix} u_t \\ \varepsilon_t \end{pmatrix},$$ with D as a set of predetermined variables not of interest and uncorrelated errors u_t and ε_t. We must assume that $b_{1,1} \neq 0$, $b_{2,2} \neq 0$ and $b_{1,2} \geq 0$ in order to interpret the causality tests to indicate that $a_{2,2} = b_{2,2} = 0$.

[33] As can be seen from Table 1, both Freedom House indicators, political rights and civil liberties, are a strong component of our governance measure of 'participation'.

this trend. Hence, unfavorable initial distortions seem to provide the high marginal returns that continuously urge policy makers to proceed with reforms.[34]

The variable to capture regional tensions displays the expected sign, but is hardly significant. In order to investigate whether governance promotes the reform process, we include the annual change of the governance indicators as explanatory variables. This seems appropriate because (consistent with our above reasoning) governance structures can be considered as exogenous with respect to the reform process. When the individual governance dimensions are subsequently included (columns (2)-(4)), it turns out that an improvement in 'accountability' and 'predictability' significantly spurs the reform process. Increased 'participation' has a positive though insignificant effect if it is included as the only governance factor. When all three dimensions are included and additionally interactive terms (as in column (5)), we observe that 'participation' is also significant, if a substitutability between 'accountability' and 'participation' is explicitly considered. As one might have expected, 'predictability' may also serve as a substitute for 'accountability'.

[Table 4 about here]

The results for the effect of governance on stabilization, which are displayed in Table 5, are quite similar to the observations regarding structural reform. Apart from a strong intrinsic decline toward inflation stability, 'accountability' and 'participation' significantly matter for a success in stabilization, whereas neither 'predictability' per se nor any further interactive terms are significant. Hence, successful stabilization is not achieved through predictable rules, but rather through a high level of control that private interests can execute directly or indirectly through increased 'participation' and 'accountability' upon the policy makers. Initial conditions do not matter for this policy indicator either. This indicates that stabilization can be achieved independently from former socialist capacity and additional initial distortions.

[Table 5 about here]

After clarifying the channels through which governance affects economic performance, a final question remains to be answered: How relevant is governance compared to the (unexplained)

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[34] Strikingly, de Melo et. al (1997) obtain the contrary results with the same dataset. Even when we ran the regressions with constant initial conditions over time or alternatively without a trend, we obtain a positive though insignificant influence of initial macro-distortions.

intrinsic development of the policy variables (captured by a constant, trend, and the lagged dependent variable) and compared to initial conditions? In order to make a statement about the relative importance of governance, we follow the approach of de Melo et al. (1997), who applied a method originally proposed by Schmalensee (1985).[35] We assess the contribution of each subset of variables to explaining the total variance of stabilization and structural reform (Table 6).

[Table 6 about here]

The comparison of the relative importance of the three groups of variables leads us to conclude that governance matters, but that it is not more important than initial conditions. However, this result is not disillusioning because initial conditions will lose their power over time as well as the intrinsic dynamics of a commitment to reforms and stabilization.

6. Conclusion

The study of governance as defined here is performance-oriented. It examines how well a government, or more generally a polity, is capable of establishing institutional arrangements and mobilizing and managing physical, human, and social capital so as to strengthen the preconditions for sustained economic catch-up processes. When the ways are to be explored in which politics and especially political institutions may strengthen the public realm and its role in economic and social progress, the notion of governance takes on distinctive importance. The general proposition here is that the more transition management is reflected by the qualities that are associated with effective governance the more it induces political legitimacy and the more private agents will comply with the given rules and regulations and

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[35] Another conventional method to evaluate the relative explanatory power of variables is to employ only standardized variables in the regression; see, e.g., Knack and Keefer (1995).

accept policy changes.

The major conclusion is that governance significantly matters for achieving effective policy reform and sustained economic growth. The panel data set constructed for this study allows to identify three independent governance factors, each of which can help improve the quality of policy making. Moreover, the paper provides new empirical evidence that governance matters in an indirect way by identifying a causal relationship from good governance to more effective policy reforms and a more stable and market-enhancing institutional framework, which, in turn, lead to a faster economic recovery after the transformational recession and subsequently to higher investment and economic growth.

In explaining the economic performance of the transition countries over the period 1992-1998, at least two governance factors have a significant positive impact on performance, but they do not constitute an explanatory variable in addition to the conventional variables (initial conditions, structural reforms and macroeconomic stabilization). Causality tests support the hypothesis that governance is not dependent on reform and stabilization policies, but that instead governance is a key factor in explaining the quality of policy reform and the success of stabilization. Governance can be treated as exogenous in explaining the efficacy of policy reforms, and it turns out that during the transition process, improvements in governance structures have been at least as important as initial conditions for reform and stabilization achievements.

In sum: The conceptual principles of effective governance seem to be an appropriate starting point that could guide further data collection and empirical research as well as the practice of institutional reforms. Moreover, the three independent governance factors, identified in the empirical analysis, may offer policy makers a choice to craft and adopt specifically-tailored political institutions. After all, governance shapes the actions of policy makers, political coordination, and the quality of economic reforms.

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Table 1: The Content of Governance Factors

Variable	Factor		
	F1	F2	F3
	Spearman-Rank-Correlation Coefficient		
Democracy	0.72	0.36	0.18
Autocracy	0.76	0.16	0.26
Political durability	0.01	0.27	0.35
Executive recruitment regulation	0.72	0.17	0.14
Executive recruitment competition	0.76	0.15	0.17
Executive constraints	0.65	0.26	0.12
Parliamentary Responsibility	0.79	0.28	-0.02
Changes in effective Executive	-0.23	-0.11	0.65
Legislative Effectiveness	0.84	0.22	0.07
Legislative Political Competitiveness	0.68	0.26	0.18
Executive Political Competitiveness	0.64	0.22	0.26
Political Cohesion	0.31	0.47	0.04
Veto players in government	-0.19	0.82	-0.10
Veto players in government and opposition	-0.17	0.84	-0.06

Variable	Factor		
	F1	F2	F3
	Spearman-Rank-Correlation Coefficient		
Political Constraints	0.72	0.36	-0.25
Corruption in government	0.55	0.56	0.22
Rule of law	0.29	0.61	0.27
Ethnic tensions	0.27	0.43	0.26
Repudiation of government contracts	0.19	0.59	0.37
Expropriation risk	0.10	0.53	0.30
Political Rights	0.78	0.31	0.02
Civil Liberties	0.71	0.27	0.16
Political Leadership	0.22	0.52	-0.13
Political Terrorism	0.26	0.48	-0.30
Loan Default	0.45	0.21	-0.07
Delayed Payments	-0.04	0.62	-0.04

Marked correlations are significant at the 5% level.

Figure 1: Governance Rankings of Economic High Performers and Low Performers
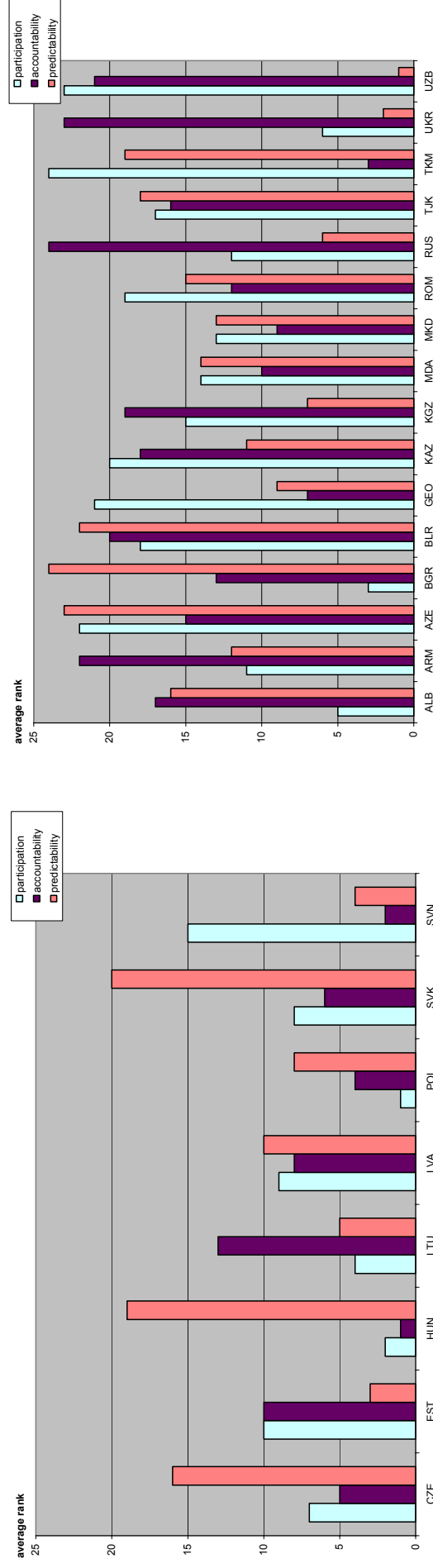
The values of the three governance factors are interpreted as a measure of institutional quality with respect to the dimensions 'participation', 'accountability' and 'predictability'. These values are averaged over the period 1990-98 for each country and based on these averages the countries are ranked (1 for the top, 24 for the bottom). The height of each bar represents these ranks.

Table 2: Governance as an Additional Explanatory Factor for Economic Performance?

Dependent Variable	Annual per Capita Growth 1992-1998				FDI per GDP 1992-1998			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Growth_{t-1}$	0.2872***	0.3802***	0.3193***	0.2776***	—	—	—	—
	(2.72)	(3.80)	(3.21)	(2.70)				
FDI_GDP_{t-1}	—	—	—	—	0.5972***	0.6400***	0.5812***	0.5721***
					(5.29)	(5.87)	(5.15)	(4.95)
$\Delta i_t - \Delta n_t$	0.0810***	0.0955***	0.0944***	0.08727***	—	—	—	—
	(3.21)	(3.46)	(3.42)	(3.18)				
Constant	-0.0172	0.0251	0.0040	-0.0139	-1.1148	-0.4614	-0.5533	-0.8286
	(-0.58)	(1.35)	(0.20)	(-0.45)	(-1.63)	(-0.83)	(-1.04)	(-1.07)
Time trend	-0.0062**	-0.0028	-0.0001	-0.0050	0.2446**	0.2695**	0.2986***	0.2931**
	(-2.44)	(-1.07)	(-0.10)	(-1.52)	(2.22)	(2.82)	(3.17)	(2.59)
$INC1_t$	-0.0111	—	—	-0.0098	-0.0563	—	—	0.0786
	(-0.93)			(-0.82)	(-0.15)			(0.23)
$INC2_t$	-0.0026	—	—	-0.0134	-0.8871	—	—	-0.7986
	(-0..04)			(-0.20)	(-0.66)			(-0.50)
$STAB_{t-1}$	-0.0106***	—	—	-0.0104***	-0.0152	—	—	0.0013
	(-3.60)			(-3.33)	(-0.15)			(0.01)
$STRU\_REF_{t-1}$	0.0935***	—	—	0.0723*	1.43*	—	—	0.5208
	(3.05)			(1.67)	(1.78)			(0.48)
TENSIONS	0.0370	0.0171	0.0297	0.0406	-0.4104*	-0.6555**	-0.5365*	-0.4559*
	(1.13)	(0.49)	(0.93)	(1.34)	(-1.67)	(-2.50)	(-1.89)	(-1.68)
AZE	—	—	—	—	11.289***	10.483***	11.573***	11.738***
					(8.84)	(7.88)	(8.11)	(8.44)
$F1_{t-1}$	—	—	0.1048*	0.0433	—	—	1.8389**	1.5577
			(1.96)	(0.68)			(2.03)	(1.02)
$F2_{t-1}$	—	—	0.0580**	0.0211	—	—	2.0179	1.7631
			(2.08)	(0.77)			(1.29)	(0.94)
$F3_{t-1}$	—	—	0.0430	0.0320	—	—	-0.6319	-0.6332
			(0.59)	(0.42)			(-0.66)	(-0.70)
Incl. Obs.	118	118	118	118	132	132	132	132
Adj. R^2	0.55	0.48	0.51	0.55	0.82	0.81	0.82	0.82
DW-Stat.	1.81	1.81	1.80	1.80	1.98	1.98	1.94	1.94

Results are from OLS-regressions, White Heteroskedasticity-Consistent t-Statistic in parenthesis, *** significant at a 1% level, ** significant at a 5% level, * significant at a 10% level . There are altogether 161 observations on governance (24 countries, for 11 of them from 1992-98, exceptions are: MKD, MDA, TAJ – 1996-98; EST, GEO, SVK, SVN, LTU – 1993-98; BGR, CZE, HUN, POL,ROM – 1990-98). Since investment is not observed for ALB, TAJ and TKM, the sample size in the growth equation is 118=2*2 (MKD,MDA)+5*5 (1994-98)+5*7 (1992-98)+9*6 (1993-98). FDI is observed for all 24 countries hence the number of observations is 132=3*2 (MKD,MDA,TAJ)+5*5 (1994-98)+5*7 (1992-98)+11*6 (1993-98). F1, F2, and F3 represent the governance factors participation, accountability, and predictability, respectively.

Table 3: Results of Causality Tests

Seemingly unrelated regressions estimates, additional explanatory variables: time trend and fixed effects dummies[1]					
Dependent Variable	$STRUC\_REF_t$	$Log(\pi_t)$	$F1_t$	$F2_t$	$F3_t$
Explanatory Variables	$STRUC\_REF_{t-1}$, $F1_{t-1}, F2_{t-1}, F3_{t-1}$	$Log(\pi_{t-1})$, $F1_{t-1}, F2_{t-1}, F3_{t-1}$	$F1_{t-1}$, $STRUC\_REFt-1$, $Log(\pi_{t-1})$,	$F2_{t-1}$, $STRUC\_REFt-1$, $Log(\pi_{t-1})$,	$F3_{t-1}$, $STRUC\_REFt-1$, $Log(\pi_{t-1})$,
Number of Obs.	136	137	132	132	132
Adj.-R2	0.92	0.76	0.79	0.67	0.23
Hypotheses:	$F1_{t-1}=F2_{t-1}=F3_{t-1}=0$		$STRUC\_REF_{t-1}= Log(\pi_{t-1})=0$		
Wald-Chi-Square (significance level)	9.09 (0.03)	12.15 (0.01)	1.23 (0.54)	2.72 (0.26)	1.11 (0.57)
Joint Wald-Test (significance level)	21.55 (0.00)		5.83 (0.44)		

[1] In order to evaluate the causal relationship in the time dimension only, fixed-effects-dummies have to be considered that capture differences among groups of countries. For example in the regression with structural reforms as the dependent variable, fixed effects for structural reforms and institutional scores are included. There are 4 groups with significantly different structural reforms (1. CZE, EST, HRV, HUN, MKD, POL, SVK, SVN; 2. ALB, BGR, LIT, LVA, 3. GEO, KGZ, MDA, ROM, RUS, 4. --), 3 for the inflation rate (1. ALB, EST, HRV, HUN, LIT, LVA, MKD, SVN, 2. CZE, SVK, 3. --) and 4 for the average of institutional scores(1. HUN, POL, SVN, 2. CZE, EST, LIT, SVK, UKR, 3. TKM, AZB, 4. --). The fixed effects were obtained starting from a regression of the respective variable on 26 country dummies, subsequent hypothesis testing of group dummies against the alternative of individual country dummies.

Table 4: Governance and Structural Reforms

	(1)	(2)	(3)	(4)	(5)
	Dependent Variable: Annual Structural Reform 1992-1998				
	Incl. observations: 137				
$STRUC\_REF_{t-1}$	-0.0965*** (-3.54)	-0.0866*** (-3.06)	-0.0952*** (-3.45)	-0.0946*** (-3.71)	-0.0729*** (-2.68)
Constant	0.1658*** (5.44)	0.1575*** (5.33)	0.1524*** (5.56)	0.1390*** (6.29)	0.1114*** (4.62)
Trend	-0.0116*** (-3.56)	-0.0114*** (-3.59)	-0.0100*** (-3.64)	-0.0080*** (-3.19)	-0.0062** (-2.37)
$INC1_t$	0.0898*** (-3.56)	0.0901*** (3.65)	0.0239*** (3.89)	0.0937*** (4.27)	0.0944*** (4.65)
$INC2_t$	0.2430** (2.07)	0.2429** (2.08)	0.2507** (2.24)	0.2773*** (2.63)	0.2615*** (2.84)
TENSIONS	-0.0399 (-1.37)	-0.0387 (-1.36)	-0.0343 (-1.16)	-0.0425 (-1.32)	-0.0358 (-1.09)
$\Delta F1_t$	——	0.1044 (1.15)	——	——	0.2089** (2.55)
$\Delta F2_t$	——	——	0.1478** (2.56)	——	0.1799*** (3.71)
$\Delta F3_t$	——	——	——	0.1441** (2.45)	0.1109** (2.44)
$\Delta(F1*F2_t)$	——	——	——	——	-0.5544** (-2.10)
$\Delta(F1*F3_t)$	——	——	——	——	-0.2899 (-0.94)
$\Delta(F2*F3_t)$	——	——	——	——	-0.8376** (-2.59)
Adj. R-squared:	0.48	0.48	0.50	0.52	0.57
DW-Stat.:	1.65	1.70	1.61	1.72	1.75

White Heteroskedasticity-Consistent t-Statistic in parenthesis, *** significant at a 1% level, ** significant at a 5% level, * significant at a 10% level. $\Delta F1$, $\Delta F2$, and $\Delta F3$ represent the annual change in the governance factors participation, accountability, and predictability, respectively.

Table 5: Governance and Stabilization Policy

	Stabilization Policy ($\Delta \log(\pi_t)$) 1992-1998				
	Incl. Observations: 150				
	(1)	(2)	(3)	(4)	(5)
$\log(\pi_{t-1})$	-0.3969***	-0.4660***	-0.4252***	-0.3992***	-0.5124***
	(-6.65)	(-7.48)	(-6.46)	(-6.65)	(-7.47)
$\Delta \log(\pi_{t-1})$	0.3172***	0.2586***	0.3028***	0.3177***	0.2328***
	(5.02)	(3.98)	(4.80)	(5.04)	(3.71)
Constant	2.8081***	3.3596***	3.0424***	2.8041***	3.8292***
	(5.03)	(5.88)	(5.26)	(4.98)	(6.12)
Trend	-0.2276***	-0.2823***	-0.2435***	-0.2265***	-0.3069***
	(-3.89)	(-4.72)	(-4.21)	(-3.83)	(-4.99)
$INC1_t$	-0.0395	-0.0542	-0.1054	-0.0427	-0.1745
	(-0.13)	(-0.25)	(-0.35)	(-0.14)	(-0.82)
$INC2_t$	0.1888	1.2362	-0.0106	0.1440	0.8848
	(0.24)	(1.56)	(-0.01)	(0.18)	(1.17)
TENSIONS	0.5918	0.3982	0.6129	0.6227	0.3764
	(1.28)	(0.90)	(1.32)	(1.27)	(0.70)
$F1_t$	——	-2.8314***	——	——	-3.3596***
		(-3.85)			(-3.71)
$F2_t$	——	——	-1.2486*	——	-1.8213***
			(-1.84)		(-2.70)
$F3_t$	——	——		0.3318	0.3698
				(0.37)	(0.48)
$F1*F2_t$	——	——	——	——	1.5499
					(0.48)
$F1*F3_t$	——	——	——	——	4.7561
					(1.18)
$F2*F3_t$	——	——	——	——	-3.7683
					(-0.60)
Adj. R-squared:	0.39	0.46	0.40	0.39	0.48
DW-Stat.:	2.08	1.97	2.07	2.07	1.96

White Heteroskedasticity-Consistent t-Statistic in parenthesis, *** significant at a 1% level, ** significant at a 5% level, * significant at a 10% level.

Table 6: The Relevance of Governance

Explained Variance in stabilization	Percentage of the variance explained (measured in Adj. R^2)		
Total Adj. R^2	*Governance*	*Initial Conditions*	*Intrinsic Develop.*
47.9	1.5 – 8.5	0.5 – 2.0	40.0 – 45.1
Explained Variance in structural reforms	Percentage of the variance explained (measured in Adj. R^2)		
Total Adj. R^2	*Governance*	*Initial Conditions*	*Intrinsic Develop.*
56.7	8.9 – 22.9	22.4 – 32.3	13.4 – 27.4

Appendix

1. Data sources and definitions

Table A1: The Country Sample

1	ALB	Albania	14	LTU	Lithuania
2	ARM	Armenia	15	LVA	Latvia
3	AZE	Azerbaijan	16	MDA	Moldova
4	BGR	Bulgaria	17	MKD	Macedonia
5	BIH	Bosnia y Herzegovina	18	POL	Poland
6	BLR	Belarus	19	ROM	Romania
7	CZE	Czech Republik	20	RUS	Russian Federation
8	EST	Estonia	21	SVK	Slovakia
9	GEO	Georgia	22	SVN	Slovenia
10	HRV	Croatia	23	TJK	Tajikistan
11	HUN	Hungary	24	TKM	Turkmenistan
12	KAZ	Kazachstan	25	UKR	Ukraine
13	KGZ	Kyrgyzistan	26	UZB	Uzbekistan

The data for the CPI inflation rates, GDP per capita in PPP and FDI per GDP were obtained from the World Development Indicators CD-ROM 2000 from the World Bank. The indicators of structural reform are obtained from the EBRD's Transition Reports (1996-2000). An average is taken over the 5 indicators for liberalization and privatization (small scale and large scale privatization, governance and enterprise restructuring, price liberalization and liberalization of trade and foreign exchange), and based of the score in 1994, this average is linked with the Cumulative Liberalization Index (CLI) of de Melo et al. (1996) in order to get the structural reform indicator employed in the analysis.

Table A2: Description of All Indicators Used in the Analysis:

	Label / Explanation	Source:	Citation:
1	**Democracy Score**, calculated from 5-7, 9.	Polity 98, Robert Gurr, Keith Jaggers	
2	**Autocracy Score**, calculated from 5-9.		
3	**Political Durability**, # of years since the last regime transition		
4	**Executive recruitment regulation**: institutionalized procedures regarding the transfer of executive power		
5	**Executive recruitment competition**: extend through which executives are chosen through competitive elections		Marshall, Monty, G. and Jaggers, Keith (2000)
6	**Executive recruitment openness**: opportunity for non-elites to attain executive office		
7	**Executive constraints**: operational (de facto) independence of chief executive		
8	**Regulation of participation**: development of institutional structure for political expression		
9	**Competitiveness of participation**: extend to which non-elites are able to access institutional structures for political expression		
10	**Parliamentary Responsibility**	Polity III: Regime Type and Political Authority, ed. by Robert Gurr	
11	**Changes in Effective Executive**		Jaggers, Keith and Gurr, Ted Robert (1995)
12	**Legislative Effectiveness**		
13	**Legislative Index of Political Competitiveness**: core is # of parties that could and did compete in last election (plurality)		
14	**Executive Index of Political Competitiveness**: core is # of parties that could and did compete in last election (plurality)		
15	**Index of Political Cohesion**: record, whether the same or different parties control the executive and the legislature and whether there is a single party government or a coalition	World Bank data set on political institutions, author:Philip Keefer	Beck, Thorsten; Clarke, George; Groff, Alberto; Keefer, Philip; Walsh, Patrick (2000).
16	**Number of veto players in the political system**: determined by the level of electoral competitiveness and the characteristics of a presidential or parliamentary system or other		
17	**Number of veto players in the political system and opposition**: Is 16 augmented by each veto player (party) that is closer in orientation to opposition than to the average of the rest of the government		
18	**Political Constraints:** Measure derived incorporating independent branches of government with veto power and the distribution of preferences across and within those branches	Witold Henisz (http://www-management.wharton.upenn.edu/henisz/)	Henisz, Witold J. (2000),
19	corruption in government	Political Risk Services Group (2000)	ICRG (2000), http:// www.prsgroup.com
20	rule of law (law and order tradition)		
21	bureaucratic quality		
22	ethnic tensions		
23	repudiation of government contracts		
24	expropriation risk		
25	**Political Leadership**		
26	**Political Terrorism**		
27	**Loan Default**		
28	**Delayed Payments**		
29	**Legal Transition Index**	EBRD, Transition Report	EBRD(2000)
30	**Political Process**	Freedom House, Nations in Transit, 1995,97,98	Karatnycky, Adrian; Motyl, Alexander; Shor, Boris (1997, 1998)
31	**Civil Society**		
32	**Independent Media**		
33	**Rule of Law**		
34	**Governmernt and Public Administration**		
35	**Political Rights**		
36	**Civil Liberties**		
37	**Corruption**	Transparency International, 1996-1999	Graf Lambsdorff, Johann (2000)
38	**Protection of property rights**	World Economic Forum, Global Competitiveness Report	World Economic Forum (1998-2000)
39	**Institutional stability**		
40	**Judiciary independence**		
41	**Legal framwork independent of state**		
42	**Government commitments**		

2. Method to Find Governance Indicators

The goal of the analysis is to extract the fundamental information about the institutional environment that is present in the 42 indicators. This information is assumed to be hidden in linear independent variables that cannot be directly observed, but whose linear combinations result in the observed institutional scores. *Principal-component-analysis* is the standard method to reduce the dimension of observed variables into a few independent factors that are sufficient to explain the variance in the complete set of variables. Because of a huge number of missing values this method is applied in a multi-step-procedure which is described below. The program used was SPSS 8.0.

In order to make the institutional scores comparable, all 42 indicators were uniformly scaled between 7 for the highest institutional score and 1 for the lowest. Then, a principal component analysis of all groups of variables was conducted, that have at least 50 observations in common (these were altogether 6 groups). For each group the principal components (factors) were extracted, that explain a greater proportion of the total variance in the indicators than any individual indicator alone (Kaiser-Criterion). The factors were rotated using the *Varimax-method*. In the group-wise extraction, the *missing values* were replaced by the averages of the group values. Because of this replacement, factors from distinct groups were available which had more than 50 observations in common and could be analyzed again for principal components. This resulted in a "second-generation" of factors, whose missing values were also replaced by the averages of the values of their "ancestors". All "second generation factors" had at least 50 observations in common and were finally analyzed for their distinct informational components. Three such distinct components were found and missing values were again replaced by the averages of the group, such that 163 observations of each fundamental institutional component were obtained.