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**Governance Indicators: A guided Tour**

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# Governance Indicators: A guided Tour

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**[Abstract]** In recent years, countries' governance has been paid increasing attention. At the same time, the availability of governance indicators has also increased. Such indicators are used by investors, aid donors and researchers. This paper reviews some commonly used governance indicators. Their construction and their usefulness are discussed. It is concluded that governance indicators are a useful tool for evaluating countries' performance, but that they should be complemented with other sources of information.

*Keywords:* governance indicators, governance, development

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# 1. Introduction

In recent years there has been a growing interest in relations between governance and economic development. This increasing interest is present both in academics, among aid donors, in politics and in business. This has been accompanied by an increased supply of governance indicators. These indicators are supplied both by non-profit non-government organizations, development organizations (like the World Bank) and for-profit agencies.

In this paper, I present some governance indicators, their construction, their use and their usefulness. Since the scope of the paper is limited and the literature on governance is large, it is impossible to review the literature in detail. Lambsdorff (2005), for instance, found no less than 100 papers on corruption alone in leading academic journals. It is, however, far beyond the scope of this paper to review the complete literature. Only some issues and some indicators will be discussed.

Section 2 discusses the need for government indicators. The recent increased interest in governance is explained by Arndt and Oman (2006) as a consequence both of the end of the Cold War and as a requirement from observed real-world development experiences. Also, academic research has guided attention towards governance. Previously, investments, resources, human capital, international trade and other important factors were regarded as main drivers for development. Today there is a growing consensus that governance too is a major and critical ingredient in development recipes. There is no support for hypotheses claiming that improved governance will follow automatically from economic development. There is a two-sided relationship: governance explains development while improved governance is often also a consequence of development.

It is not obvious how governance indicators could or should be constructed. Some forms of governance may perform better in some types of societies than in others. Problems in constructing governance indicators are also discussed in section 2.

Hundreds of researchers around the world are involved in constructing and developing governance indicators. Section 3 offers a set of examples of existing indicators. The selection presented in section 3 reflects my wish to exemplify some commonly used indicators and issues that arise in constructing and using them. Section 3 also presents and goes through some important indicators that are available. The scope of the paper is limited, so only a handful of indicators are presented. A list of some available indicators is presented in the appendix.

It is typical that indicators are aggregate indicators. There are many sources of many aspects of governance, for different countries, regions and periods of time. Aggregated indicators make use of many individual sources of information, databases and indicators. Aggregating indicators gives rise to methodological issues. But aggregation methodology also gives new opportunities. Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi are pioneers in this respect. They have developed a wide-ranged database of governance indicators. Their methodology allows them to construct confidence intervals for indicators so that their precision can be measured. Section 4 presents these indicators in some detail.

The recent surge in available governance indicators has also given rise to a debate on their usefulness. In section 5 we go through some elements in this debate. Some points are relevant for most indicators, others merely for a few.

Governance indicators are used for many purposes. They are used by businessmen, donors and academicians. Section 6 illustrates the use of such indicators in academic development studies. There is now acceptance that governance correlates with and explains (statistically) development *levels*. An important research agenda that is not yet settled is the relationship between growth and governance.

Section 7 concludes this summary paper.

## **2. The need for governance indicators**

Governance is a broad concept and necessarily includes many facets of a society. Governance can be defined in different ways and proposals abound. Governance denotes how a society is organized and indicates its procedures and rules for change and for allocation of resources and power.

Kaufmann *et al.* (2004) define governance as “the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected and replaced, the capacity of the government to formulate and implement sound policies, and the respect for citizens and the state for the institutions that govern economic and social interaction among them”.

The World Bank’s (2007) definition of governance is “the ways public officials and public institutions acquire and exercise authority to provide public goods and services, including basic services, infrastructure, and a sound investment climate”.

UNDP (2007) defines governance as “the system of values, policies and institutions by which a society manages its economic, political and social affairs through interactions within and among the state, civil society and private sector. It is the way a society organizes itself to make and implement decisions – achieving mutual understanding, agreement and action”.

The European Commission’s definition reads: “the state’s ability to serve the citizens. It refers to the rules, processes, and behaviours by which interests are articulated, resources are managed, and power is exercised in society” (cited from UNDP, 2007).

Governance thus refers to how authority is created, shaped, exercised and changed. Note that governance is not limited to public authorities in all the definitions above, but public institutions have a role in all of them. In the definitions proposed by the UNDP, governance refers to interactions within and among the state, civil society and the private sector.

Note that neither of the definitions above defines governance by its content. Governance is more a concept of effectiveness (being able to follow good policies) than it is a concept of good policies.

Still, it seems – and it is – obvious that governance matters for economic performance and for the effectiveness of economic policy. For instance, if property rights are not protected, incentives for long-term investments are reduced. Consequently, capital accumulation may be low.

Governance is inherent in all human societies and is, therefore, of very different natures. In some societies, private property rights are limited while they are constitutive in others. In some societies, marriage is entered under the auspices of a religious society, in others under the auspices of the state. In many countries, tariffs are used to protect national industries. In others, tariffs represent an important source of public incomes. In some countries, however, tariffs protect the interests of the interest groups that can afford the best lobbyists. In most societies, public governments run schools, but not in all. In all countries, corruption is illegal since this follows from its definitions, but laws on prosecution of and sanctions against corrupt acts differ widely between countries.

Demsetz (1967) presents an interesting analysis of the developments of property rights. He shows how the need for property rights occurred as some resources became scarce and how property rights, and their protection, emerged as a consequence of such developments. In particular, his analysis focused on the origin of property rights in North-America. His analysis takes as point of departure external effects of economic activities. Property rights are one way of internalizing external effects. When property rights exist, owners take into account the effects of use of assets. When property rights are absent, such effects are often ignored. Coase (1960) discusses several examples of how property rights internalize externalities in his seminal article “The Problem of Social Cost”.

In literature on property rights, a core message is that their existence is critical. Economic theory has fewer messages on the distribution of property, between individuals or between private and public agents. This follows from the so-called Coase-theorem: “bargaining can achieve an efficient allocation of resources whatever assignment of property rights” (Gravelle and Rees, 1992, p. 518). Here, *efficient* denotes Pareto-efficient (defined as a situation in which it is not possible to make anybody better off without making someone worse off), not fair.

There are many conditions and prerequisites for an economically efficient solution to materialize without governance from authorities (i.e. under the premise of decentralized markets). These include absence of external effects, complete information, (in some cases) absence of increasing returns to scale, absence of public goods and many more. It is a governance task to handle violations of many such conditions for economic efficiency.

In institutional economics, focus is on transaction costs. Due to transaction costs, many transactions are not completed. Efficient markets may in some circumstances require that

marginal buyers' willingness to pay equals marginal sellers' least acceptable price. Transaction costs create wedges between price received and price paid. Institutions (and therefore governance) very often have the function to reduce transaction costs and establish environments of trust between economic agents.

Governance also determines how political decisions are made and the extent to which conflicts of interest are repressed or solved through compromises. Redistribution, insurance and social safety nets are important aspects of national governance.

The increased interest in governance has stimulated production of governance indicators. There are now a plethora of governance indicators. Arndt and Oman (2006) describe this renewed interest as a result of four developments.

The first is the increase in international investments. Foreign direct investments (FDI) have grown tremendously over the last two decades. FDI to developing countries rose from less than 10 billion USD in 1980 to more than 200 billion in 2000 and 300 billion in 2006.<sup>1</sup> Foreign direct investments in total added up to 1300 billion USD in 2000 and about 600 billion in 2006. In addition comes portfolio investments, i.e. investments in bonds and shares that are not followed by direct control and lasting interest.

FDI in developing countries have become important for international investors in order to serve local markets, global markets or the investors' home markets. As a consequence of increased international investments, governance in developing countries has gained interest. How can social and physical infrastructure, protection of property rights and public services serve investors' needs? What is the risk of social upheaval or expropriation? Do workers speak English? How are wages determined? Questions like these have generated a market for governance indicators. Indicators are needed to help in investment decisions.

Second, the demise of the Cold War put an end to the ideological war between market economy and Communism. Development assistance is no longer used to support anti-Communist regimes or to reduce Communist sympathies in developing countries. Arndt and Oman interpret the World Bank's recent increased interest in corruption and governance as a consequence of this. They do not, however, discuss the analogous use of development assistance as a weapon in the war on terror during the Bush-administration in Washington D. C.

Third, write Arndt and Oman, growing perceptions that many policy reforms in developing countries failed during the 1980s is an explanation of the growth in interest in governance. Reforms initiated under the "Washington Consensus" did not always turn out successful. One change has been that more weight is put on governance.

The fourth reason for increased interest in governance is an increased interest in these aspects in many sub-disciplines within economics and development studies. New institutional economics demonstrates the importance of countries' systems of governance. In

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<sup>1</sup> FDI dropped considerably in the aftermath of the 2001 terror attack on World Trade Centre, but more so for FDI going to developed countries than to developing countries. See UNCTAD (2007).



trade theory, development and growth economics and macroeconomics new insights have led to a growing optimism as to the potential benefits of government interference in economic life – and increased warnings about economic mismanagement.

We may also hold that globalization has increased the need for measures of, and knowledge about, governance. Globalization means that economic interactions and transactions across national and cultural borders and over long geographical distances have become easier and cheaper. This is the result of technological and political changes – of which the end of Communism is one. For globalization to result in increased economic interaction, many prerequisites are present. Globalization has therefore created a need for better knowledge about governance. For instance, agents need codified knowledge about other countries. FDI is one example. To invest in another country, investors need to know the host country. Another is international trade. Since many types of obstacles to trade are reduced, there may be a need for increased knowledge about distant trading partners.

The supply, demand and use of government indicators rest on a set of premises that are sometimes assumed implicitly and sometimes made explicit. Six important premises are:

1) Governance can be measured.

This implies that it is possible to quantify or categorize differences in governance between countries. This is not self-evident. First comes the obvious practical difficulties in measuring governance. This is discussed below. But then there are more profound difficulties. Both the need for governance (and its different dimensions) and the possibility for governance vary between countries. Figure 1, taken from Andvig (2006), serves to illustrate this.

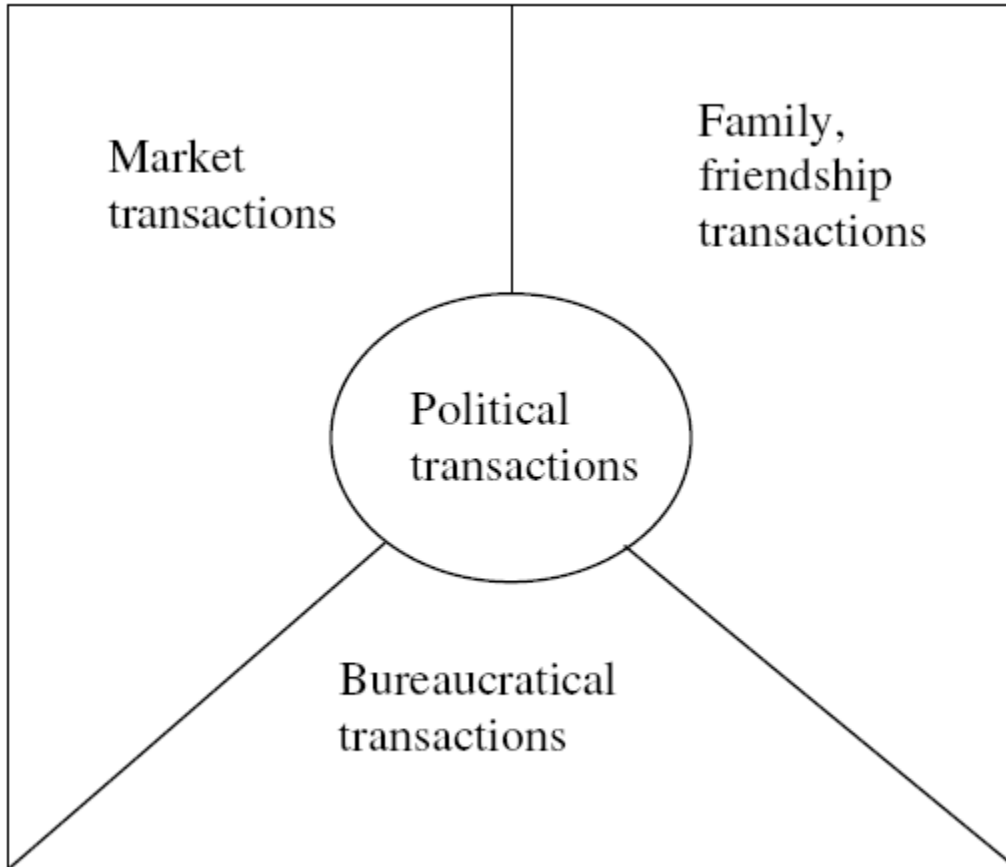
The figure indicates four spheres to which transactions in societies belong. These spheres are present in all societies. These four are the *family–friendship* sphere, the *political* sphere, the *market* sphere and the *bureaucratic* sphere. In all societies, transactions are executed in each of these spheres. All societies have formal and informal rules for which types of transactions that belong to which sphere. These rules are important and constitutive for social, cultural, political and economic systems. When formal or informal borders for where transactions belong, are crossed, it creates tensions and conflicts.

*The four spheres do not have identical contents across societies, however.* Therefore, governance cannot be identical across societies. Similarly, *good governance* may differ between different countries. It is, therefore, not obvious that any yardstick for measurement of governance exists.

In 2009, sexual services will formally be excluded from the market transactions sphere in Norway. From January 1st 2009, prostitution will be illegal. In other countries, there are neither formal nor informal rules against trade in sexual services. Does the formal ban against prostitution represent an improvement of governance in Norway? According to my argument, the answer depends on the border for market transactions versus private

transactions. This depends on conditions that vary between countries and cultures since it is a matter of conviction.

**Figure 1. Spheres for transactions**



Since governance is about many social phenomena the first premise depends on 2)

2) It is possible to measure individual dimensions of governance.

Even the most ambitious indicators available do not (implicitly or explicitly) aim at measuring the full and complete phenomenon of *governance*. But figure 1 gives rise to pessimism about the possibility of measuring individual dimensions of governance. The reason is again that different aspects of governance may belong to different spheres of society.

The family and friendship sphere has different norms for transactions than the market sphere. Obviously these are different. But we cannot conclude that more transactions should be transferred from the family sphere to the other three.

Bureaucratically, transactions are necessary in all advanced societies. People and firms have to pay taxes. There is a need for public services. Buildings need to have access to

water and electricity. Garbage has to be dispersed. It is necessary to organize this and to prioritize between customers and between needs. Neither speed, amount of resources used to produce these services nor customer satisfaction are necessarily always the best yardsticks for measuring such governance.

Access to education and health services is regarded as essential human needs. In many societies these services are provided by the public sector, but in some societies they are provided by private markets. In some countries, public services are privatized. In other countries, the scope of public service provision broadens.

Some types of goods and services are allocated according to market prices. Those who have sufficient willingness to pay are able to purchase the good. Those without willingness to pay do not purchase the good. Allocating according to market prices is just one mechanism for allocation of goods. Waiting time, need, number of children, lottery and many other mechanisms are in use. Only fundamentalists think that prices should be the only allocation mechanism.

3) Governance can be ranked.

Most governance indicators assign a numeric value to the indicators. The least demanding way of doing this is to rank countries according to their governance quality. Again figure 1 gives rise to some complicating remarks. If one wants to construct an indicator for the functioning of markets, what dimensions should be included? Should it include black markets? If one wants to measure the complexity of tax systems, should complexity be ranked similarly in advanced OECD countries as in poor developing countries?

4) Governance can be scaled cardinally.

Most governance indicators measure governance quality on cardinal scales. For instance, on a scale from 1 to 10, it is assumed that the difference between 8 and 9 is similar to the difference between 2 and 3. Premise 4 is often assumed, but many indicators only require premise 3.

5) Individual governance indicators can be aggregated.

It should be possible to compare good governance for market transactions and bad governance for bureaucracies. This is complicated by itself, and not less so because the sphere for market transactions and the sphere for bureaucracy differ between countries. Note that for such aggregation procedures to be possible, a necessary though not sufficient condition is that premises 1 through 4 are all true.

6) It is possible to trace changes in governance over time.

In fact, several indicators of governance do not depend on this premise. Rather, they measure changes in ranking of countries over time. Again, figure 1 illustrates some problems. Social change, for instance due to positive development or as a result of globalization, implies that the borders between the spheres in figure 1 are changed. Transition from planned to market economies in the 1990 is one example. Market transactions were introduced on a grand scale in the former Soviet Union and Eastern Europe. It is not *a priori* possible to denote all the changes as improvements in governance quality.

A seventh premise is that it is possible not only to measure governance, but also to use measures to draw normative inferences about governance. Economists disagree about the impacts of trade policy. Is an average tariff level of 10 per cent better than an average of 20? Does a rule-based trade policy always outperform a case-to-case trade policy? These are questions that are hard to answer.

### 3. Some government indicators

As reviewed above, governance is a wide concept. Its definitions include political and judicial rights, rule of law, absence of corruption and many more aspects of social and economic life. Attempts to measure governance are widespread and a large set of databases, comparing countries by some or many aspects of governance are available. UNDP (2007) gives an overview over some indicators. Arndt and Oman (2006) is another attempt to survey the large number of different indicators available. A third one is Williams and Siddique (2007). Some of the most common indicators are composite ones, constructed by aggregating many individual indicators.

Below we describe a small selection of indicators. These were chosen because they are commonly used and frequently referred to. They also represent attempts at measuring different aspects of governance and they represent different types of indicators. The overview gives an impression of the content of the different indicators, their construction as well as their availability.

In appendix A, a list of indicators is given. The list is not exhaustive, but it gives an overview of some important indicators. In section 4, the Worldwide Governance Indicators, developed by Daniel Kaufmann, Aart Kray and Massimo Mastruzzi, are presented in some more detail.

#### 3.1 Government indicators

**Freedom House** is a private non-profit organization founded in 1941. It has an explicit political agenda in being a “clear voice for democracy and freedom around the world”. It publishes the survey *Freedom in the World*. Despite their political bias in working “to advance the remarkable worldwide expansion of political and economic freedom”, they claim that they do not “maintain a culture bound view of freedom”. However, they work under the assumption that freedom for all peoples is best achieved in liberal democratic societies.

The survey covers 193 countries. It does not rate countries’ governance per se, but how freedom is experienced by people and firms in the respective countries. The rating process is based on a checklist of 10 political rights questions and 15 civil liberties questions. Based on this, countries are awarded ratings from 1 (highest) to 7 (lowest) of political rights and civil liberties. Each pair of political rights and civil liberties is averaged to determine an overall status of “free”, “partly free” or “not free”. Also trends in the data are indicated by trend arrows in the tables.

The very aggregated ratings from Freedom House imply that very different countries are ranked similarly. From the 2007 edition, for instance, Afghanistan and Turkey are both classified as *partly free*. Russia and Sudan are examples of countries that are ranked *not free*.

The survey (2007) is constructed by the staff of Freedom House by 29 analysts and 16 senior-level academic advisors. The data are therefore constructed by country specialists and not based on peoples' or firms' real experiences. The data are available free of charge at [www.freedomhouse.org](http://www.freedomhouse.org).

**The International Country Risk Guide** is constructed by the PRS group. The PRS group is privately owned and assesses financial, economic and political risks for about 161 countries. The data provided by the PRS group come from assessments and forecasts of country specialists. Country reports are prepared on a quarterly basis and the current level and likely changes of 17 risk components are reported. These include risks of turmoil, equity restrictions, taxation discrimination, exchange controls, tariff barriers and labour policies. Each of the 17 factors has a range from 0 (low risk and forecast of no change) to 4 (high risk and forecast of more restrictive policies). The 17 factors are used to generate risk profiles for three investment areas: financial transfers, foreign direct investments and exports. The 17 risk values are summed and the resulting total is scaled from 0 (high risk) to 100 (no risk) for each of the three areas. Also a composite risk profile is constructed.

The PRS group provides its data on a commercial basis and they are not provided free of charge. Some sample data are freely downloadable at the PRS web page, [www.prsgroup.com](http://www.prsgroup.com).

**Global Integrity** is an independent, non-profit organization tracking governance and corruption trends around the world. It produces the *Global Integrity Report*, which is a collection of country assessments examining national-level anti-corruption mechanisms annually in a diverse mix of countries. The report combines qualitative journalism with quantitative data gathering, all generated by in-country experts. The report also contains the Global Integrity Index. The index groups countries into broad bands of performance when it comes to the existence, effectiveness and citizen access to national-level anti-corruption mechanisms.

The Global Integrity Index measures the opposite of corruption and bad governance. The ambition is to assess the access of citizens and businesses to a country's government, their ability to monitor its behaviour and to advocate for improved governance. Using country teams of social scientists and journalists, reports on the de jure and de facto reality of corruption and anti-corruption mechanisms are developed.

The integrity indicators are used to "score" the institutional framework that exists at the national level to promote public integrity and accountability and prevent abuses of power. The integrity indicators are organized into six main categories and 23 subcategories. The six main categories are 1) Civil Society, Public Information and Media, 2) Elections, 3) Government Accountability, 4) Administration and Civil Service, 5) Oversight and Regulation and 6) Anti-corruption and Rule of Law.

Scores are given for "in law" and "in practice" on a range from 0 to 100 with 0 being worst possible and 100 perfect. The scores for each country are subject to a peer review process for each country. This process is used to adjust scores, and also to construct confidence intervals for each individual country's score. On the basis of changes in a country's score as a result of the review, the resulting confidence intervals are interpreted as an indication of the precision of the scores.

The Global Integrity Index is based on Global Integrity's network of national country specialists. For a country to be included in the report, Global Integrity requires access to national experts. For the 2007 report, a total of 55 countries were included. These were chosen on the basis of available budget and an aim of being representative. Global Integrity uses data from Freedom House (see the above) to ensure a balanced coverage with regard to basic freedoms and civil liberties. The Global Integrity's budget is based on donations from private foundations and the World Bank. The index and annual report are available free of charge at [www.globalintegrity.org](http://www.globalintegrity.org).

**The Open Budget Project** produces the *Open Budget Index*. This index measures the extent to which budget processes in a sample of 59 countries are open to their citizens. The index, based on answers in a

122-point questionnaire, ranks countries according to whether the national budget processes are open to citizens. Countries are ranked on a scale from 0 to 100, 0 indicating that the government provides “scant, or no information to citizens” and 100 indicating that it provides “extensive information to citizens”.

The questions deal with publicly available information issued by the central government. The questions ask about what occurs in practice, not about legal requirements. Researchers and peer reviewers were asked to provide evidence for their responses. The questions belong to three sections: on availability of budget documents, budget proposals and budget processes. The last section also assesses the implementation of budgets and auditing procedures in the ensuing budget year.

The annual report and the answers to the questions are provided free of charge on the project’s web page, <http://www.openbudgetindex.org/>.

The project was initiated in 2002 after a meeting with non-governmental organizations from several countries. The International Budget Project is funded by the Bill and Melinda Gates Foundation, the Ford Foundation, the Open Society Institute (OSI), the Swedish International Development Cooperation Agency (SIDA) and the William and Flora Hewlett Foundation.

**The Global Competitiveness Index** has been produced annually for the World Economic Forum since 2004. It aims at measuring competitiveness in a broad sense and it takes into account microeconomic and macroeconomic aspects of national competitiveness. The 2007 version of the index covers 131 countries. Competitiveness is defined as the set of institutions, policies and factors that determine the level of productivity of a country. This broad ambition makes the index demanding to construct. The index relies on many indicators and large datasets. It is constructed from datasets classified into 12 different pillars. These are institutions, infrastructure, macro economy, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market sophistication, technological readiness, market size, business sophistication and innovation. The global competitiveness index is thus no *governance* indicator. Rather, it is an aggregation of different indicators, of which some, but not all, reflect governance. Other elements of it reflect private sectors, the country’s geographical location (market size) and other factors. It is included here since it is commonly used, attracts a lot of attention and since parts of it are used to construct other indicators. The index is also constructed partly on the basis of other existing indicators.

The global competitiveness index rests on the assumption that different aspects of competitiveness matter differently in different countries. The researchers who construct the database therefore classify countries into three classes according to their stages of development (factor-driven, efficiency-driven or innovation-driven countries) and weight outcomes from the 12 pillars differently according to which class a country belongs to. This is an interesting feature of this index. As mentioned above, the need for governance varies between countries. The Global Competitiveness Index is the only indicator that takes differing levels of development into account in its rank of countries.

The weights for each type of pillar were produced on the basis of regressions of GDP per capita on different data, where coefficients were allowed to vary for each development stage. As such, the index is directly based on the variables’ impact on the variable they are meant to indicate. Other indicators are often criticized for reflecting the same mechanism without being explicit about it.

The index is composed of 113 variables. 79 of these are from an executive opinion survey carried out for the World Economic Forum. The Global Competitiveness Index ranks countries and also produces a score (ranging from 0 (low) to 7 (high)). The scores are constructed so that trends over time can be traced. USA ranks highest on the index with a score (averaged over the variables) of 5,67 and Chad ranks lowest with a score of 2,78.

The global competitiveness index is developed by a group of well-known researchers in development studies and economics. The index is available free of charge on <http://www.weforum.org/>. Also documentation is available at this web page.

**CPIA (Country Performance and Institutional Assessment)** is produced annually by the World Bank for all its borrowers (76 countries). The World Bank has used government assessments for allocating its assistance since the 1970s. The bank first focused on macroeconomic performance, and later on expanding its indicators to include other aspects of governance. Now the CPIA consists of a range of indicators and they are produced to “measure the extent to which a country’s policy and institutional framework supports sustainable growth and poverty reduction and, consequently, the effective use of development assistance” (World Bank, 2007).

Being an official criterion for receiving grants and loans from the World Bank, the CPIA indicators deserve some comment here. The CPIA is constructed on the basis of 16 criteria. Countries receive a score from 0 (bad) to 6 (excellent) for each of the 16 criteria. The criteria are grouped in four clusters. These are economic management, structural policies, policies for social inclusion and equity, public sector management and institutions. The overall score for each country is obtained from averaging these indicators. This aggregated score is denoted as the IDA Resource Allocation Index (IRAI). This index is decisive (together with gross domestic product per capita) for resource allocations from the IDA (The International Development Association). IDA assistance is development assistance (in the forms of loans and grants) to poor countries to help them reduce poverty and achieve the millennium goals.

The scores on each of the individual 16 criteria depend on the level of performance in a given year. World Bank staff evaluates the country’s performance on each criterion and assigns rating. These ratings reflect a variety of indicators, observations and judgment based on country knowledge and relevant publicly available indicators. The process involves two phases. In a *benchmarking* phase, a sample of countries is rated. Country proposals are reviewed at the regional level and then in a “bankwide” review process. A similar process is followed for the remaining countries, using the benchmark countries’ scores as guideposts.

The IRAI data and a description of the methodology used are available in the *World Development Report*. The IRAI data were made public for the first time in 2005. They are now included in *World Development Indicators*, published annually by the World Bank.

**Transparency International** produces the well known *Corruption Perception Index*, CPI. CPI was first released in 1995 and both the country coverage and the quality of the database have increased since then. The CPI ranks 180 countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys.

As the name indicates, the CPI measures *perceived* (as opposed to real, experienced or actual) levels of corruption. This approach is taken by many governance indicators. The reason is that governance in general, and corruption in particular, is difficult to measure. It is possible to compare the number of prosecutions against corruption between countries. But such numbers hardly measure real or experienced corruption since also the quality of prosecutions and the willingness to fight corruption will influence on the result. Other and indirect measures of corruption have also been proposed, as e.g. black market premiums. Such measures will often be hard to collect and will be less comparable between countries.

As mentioned above, CPI ranks countries according to perceived levels of corruption. Therefore, changes over time are changes in the ranking of countries, not necessarily the level of corruption. The database cannot be used to estimate trends in global corruption over time or to assess changes in individual countries’ levels of corruption. Changes in one country’s ranking can be due to changes in perceived levels of corruption in this country. But changes can also be due to changes in other countries’ ranking or to the addition of new countries in the database. To assess changes in levels of corruption in individual countries or globally, one has to go to the original databases that are used to produce the CPI.

The CPI is a composite index. It includes information from several sources, most often from surveys of country experts and businessmen. These are both non-residents and residents of the relevant countries. It consists of information taken from 14 sources developed by 12 independent institutions. Countries for which at least three sources are available are included in the CPI. The different sources measure the extent of perceived corruption both in the public and political sector. All the sources provide a ranking of coun-

tries. To determine the mean value for a country, a standardization procedure is followed using the ranking of countries. This allows all scores to remain within the bounds used in CPI, between 10 (no corruption) and 0 (widespread corruption). Averaging over several sources will tend to reduce the standard deviation in the sampling. Therefore, a special procedure (a beta-transformation) is performed to increase the spread of the distribution.

The CPI data are also reported with confidence intervals in order to underline the uncertainty with which corruption is measured. The confidence intervals are computed as a function of the different scores by the individual sources. The exact procedure is a bootstrap methodology that allows inferences of the underlying precision of the results. The lower (upper) bound of a 90 per cent confidence interval is determined as the value where 5 per cent of the sample's means are below (above) this critical value. The accuracy of the confidence interval estimates increases with the number of sources. A discussion of the methodology used to construct CPI is given by Lambsdorff (2007).

The CPI databases are available free of charge on [www.transparency.org](http://www.transparency.org).

## 4. The Worldwide Governance Indicators (WGI) Project

The WGI project indicators are among the most carefully constructed and the most widely used. Therefore, these indicators will be presented in some detail here. Since these indicators are so widely applied, they have also given rise to some criticism. Below, a concentrate of this criticism is presented.

### 4.1 Data Construction

The Worldwide Governance Indicators (WGI) project is an ambitious project that aims at aggregating existing sources about governance into new and more reliable composite indicators. The project does not execute surveys or collect new data itself. Rather, it collects and aggregates existing ones. As such it resembles TI's Corruption Perception Index. The WGI data are, however, more ambitious than TI's CPI since they cover more dimensions of governance than corruption. The WGI project also has a broader country coverage. Pioneers behind the WGI project are Daniel Kaufmann, Aart Kray and Pablo Zoido-Lobaton. The indicators are therefore sometimes referred to as the KKZ indicators. The database is available free of charge on <http://info.worldbank.org/governance/wgi2007/>. Also a series of working papers and documentation are available on the same web page. Several of the working papers are published in academic journals. The database is widely used, both for policy purposes and in academics. The database was produced biannually from 1996 to 2002 and annually from 2002 onwards. The last available edition (2007) gives estimates up to and through 2006.

A point of departure for the WGI project is the large number of existing indicators, developed by many, and often, independent sources. Many of these indicators have been developed for groups of countries or for special dimensions of governance only. The aim of the WGI project is to extract as much information as possible from available indicators while not compromising with country coverage or the quality of the indicators. For the WGI project, therefore, an important task was to develop adequate methods to aggregate existing indicators. A consequence of the methodology developed and used is that it be-



comes possible to construct confidence intervals for the indicators. These confidence intervals indicate how precise the indicators are.

The sources for the WGI project are of two different natures. The first one is polls of experts. These polls represent ratings from experts convened by a reporting organization. The other type of source is surveys. These present the responses of a large number of respondents to a variety of questions.

The WGI project does not present one aggregate indicator of governance. Instead, existing indicators are aggregated into six individual ones. The choice of six indicators seems somewhat arbitrary. Kaufmann *et al.* (1999b) write: “..., it reflects our own views of what constitutes a useful and interesting organization of the data that is consistent with prevailing notions of governance” p. 7) and “Users of the governance database may question both the classification of individual indicators into these six clusters, and also the six clusters themselves. Users are therefore welcomed to use individual indicators and construct aggregate indicators that are most useful to their own analytical purposes” (ft.note 10).

Kaufmann and his co-authors construct the six indicators so that pairs of them relate to one of the three dimensions in their definition of governance. These are a) *the process by which governments are selected and replaced*, b) *the capacity of the governments to formulate and implement sound policies*, and c) *the respect for citizens and the state for the institutions that govern economic and social interaction among them*.

The six dimensions of governance are:

- *Voice and accountability* (VA) measures the extent to which citizens in a country are able to take part in political processes. The indicator includes measures about political processes, civil liberties, political rights and independence of the media. Free press, elections, trade unionism, transparency of the business community and the role of military in politics are examples of indicators that are aggregated in the *Voice and Accountability* indicator.
- *Political stability* (PA) combines indicators about perceptions of the likelihood that existing governments will be overthrown by unconstitutional or violent means. Indicators that are included are risks of armed conflict, social unrest, political assassinations, terrorist threat, ethnic tensions, strikes, violence, demonstrations and likelihood of dramatic changes in institutions.
- *Government effectiveness* (GI) measures the ability of the government to ‘formulate and implement sound policies’. This includes indicators of quality of public services, the quality of bureaucracies and competencies of civil services. Focus is on governments’ abilities to ‘produce and implement good policies and deliver public goods’. Indicators included are bureaucracy (red tape), quality of government personnel, conditions of roads, efficiency of mail delivery, quality of public health provisions and whether government policy is ‘pro-business’(!).

- *Regulatory policies (RP)* deal with the policies themselves (even more than government effectiveness do). This includes measures of incidences of ‘market un-friendly policies such as price control or inadequate bank supervision, and regulations of areas like foreign trade and business development’.<sup>2</sup> Other indicators included are government interventions, wage/price control, capital flows regulations, export and import regulations, price liberalization, competition policy, barriers to entry and trade policy.
- *Rule of Law (RL)* measures the extent to which agents (both governments, firms and individuals) abide the rules of society. Examples include perceptions of crime, effectiveness and predictability of the judiciary and enforceability of contracts. Indicators included are losses from crime, kidnapping of foreigners, crime, black market, protection of property rights, enforceability of contracts and crime and theft as obstacles to business development.
- *Control of corruption (CC)* measures perceptions of control with corruption, defined as the exercise of public power for private gains. Indicators include corruption among public officials, corruption in the political system, frequency of irregular payments and improper practices in the public sphere. Many of the variables that are included in this indicator are the same as those included in TI’s *Perceived Corruption Index*.

These six indicators are the result of a massive aggregation exercise. Hundreds of indicators, taken from 37 data sources produced by 31 different organizations, are used to construct the six indicators. Importantly, not all the 37 sources cover all countries. Some are regional indicators while some cover only a sub-sample of countries. One main idea behind the WGI project is to broaden the country average by aggregating data that are available for smaller sub-samples of countries. The WGI project has contributed substantially to the indicators market through its aggregation procedure. The details in the methodology are discussed in Kaufmann *et al.* (1999 a and b) and a somewhat critical review is given in Arndt and Oman (2006). In Kaufmann *et al.* (2007), an answer to the critique is given. Below, elements from this discussion are discussed.

The aggregation method used by Kaufmann *et al.* proceeds in five stages.<sup>3</sup> They start with relevant indicators for each of the six categories of indicators. For instance, for *Rule of Law* 24 individual indicators are used. From these 24 sources, they produce arithmetic averages for each individual source. These indicators are rescaled (so that higher outcomes correspond to better outcomes) and normalized (subtracting the minimum possible score and dividing with the range). The resulting averages are therefore numeric indicators from individual sources.

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<sup>2</sup> This makes political neutrality doubtful. It is an ambition of the WGI project not being politically biased. However, many would argue that both the government effectiveness variable and the regulatory policy variable are necessarily biased. Political controversies are very often exactly about the effectiveness of ‘market un-friendly policies such as price controls’. Examples abound. One is the Swedish housing market which is highly regulated. Another is public transport. Should it be subsidized or not? A third is centralized wage bargaining. Is market friendly or un-friendly with centralized wage formation? Also see subsection 5.3 below.

<sup>3</sup> See Arndt and Oman (2006) who give a detailed introduction.

The second stage is a screening procedure of the various sources in order to determine whether the source covers enough countries to qualify as a ‘representative source’. Specifically, Kaufmann and his co-authors construct a coverage index to determine whether a source is representative or not. The index is based on 45 subcategories of countries corresponding to income, class and regions. The index ranges from zero to one, with low values indicating more representative indicators.<sup>4</sup>

The third stage is to aggregate the representative sources to a preliminary composite indicator. In this stage the indicators are not aggregated using arithmetic averages but instead with weights depending on the correlation between the indicators from different sources. Those indicators that correlate most with the others receive the highest weight. The weights are constructed on the basis of estimating a relationship between observed indicators and their unobserved random counterparts.<sup>5</sup> It is assumed that the errors with which indicators reflect governance are not correlated across individual sources. This is a necessary, though controversial assumption (to be discussed in section 5.4 below).

In the fourth stage the weights of the remaining sources are determined. This is done by regressing the non-representative indicators on the preliminary composite indicators. This results in estimates of the error variances of these (non-representative) sources. The estimated error variances are then used to determine the weights of these sources. The indicators that correlate the least with the composite indicator receive the lowest weight.

The fifth stage is to construct the final indicators based on the weights resulting from stage four (non-representative sources) and stage three (representative sources).

The WGI indicators are constructed so that the resulting composite indicator has an average, across countries, equal to zero and the standard deviation is equal to one. In fact, the indicators are constructed to be a standard normal distribution. This implies that the indicators cannot be used to analyse trends over time, neither globally for groups of countries nor for individual countries. They can be used however, to analyse *ratings* between countries and trends for individual countries’ ratings over time. The assumed standard normal distribution implies that more countries are concentrated close to the average than at the distribution’s extreme values.

It is worth noting that the resulting indicators aggregate different indicators differently. The weights depend on correlations with other sources’ indicators and their country coverage. Therefore, different sources receive different weights for different countries. Keep in mind that the number and composition of sources used to construct each indicator for each country normally differ. It is not straightforward, therefore, to recalculate the indicators for observers outside the WGI research community. The weights are reported on the project’s web page, <http://www.govindicators.org/>.

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<sup>4</sup> The index is constructed as one-half of the sum of absolute deviations between the shares of countries in each of 45 region/income classifications (taken from *World Development Report*) in the particular source and in the world as a whole. See e.g. Kaufmann *et al.* (1999a).

<sup>5</sup> A maximum likelihood procedure is used to estimate an unobserved component’s model for the relationship between observed indicators and the unobserved ‘true governance’.

An important feature of the WGI indicators is that the constructed weights make it possible to construct confidence intervals around the point estimate. As such, the indicators take into account the inherent uncertainty about governance indicators. This reflects the idea that the various sources give an imprecise estimate of the relevant governance dimension. The weighting procedure makes it possible to quantify the uncertainty in the composite indicator. The uncertainty quantified by this procedure is a result of the numbers of sources and the correlations between these sources. The numeric confidence intervals are therefore constructed from ‘technical’ features of the data and not from detailed analyses about their content of information. We will return to this below.

The 90 per cent confidence intervals for the governance indicators are quite broad. This means that the indicators are not very precise. For instance, for the “Rule of Law” indicator it is hard to conclude that a country that receives 0 and one that receives 0.2 are different since these differences are hardly statistically significant (the indicator ranges from about -2.5 to about 2.5 with most countries ranging around zero). One cannot say with certainty that the former performs worse than the latter.

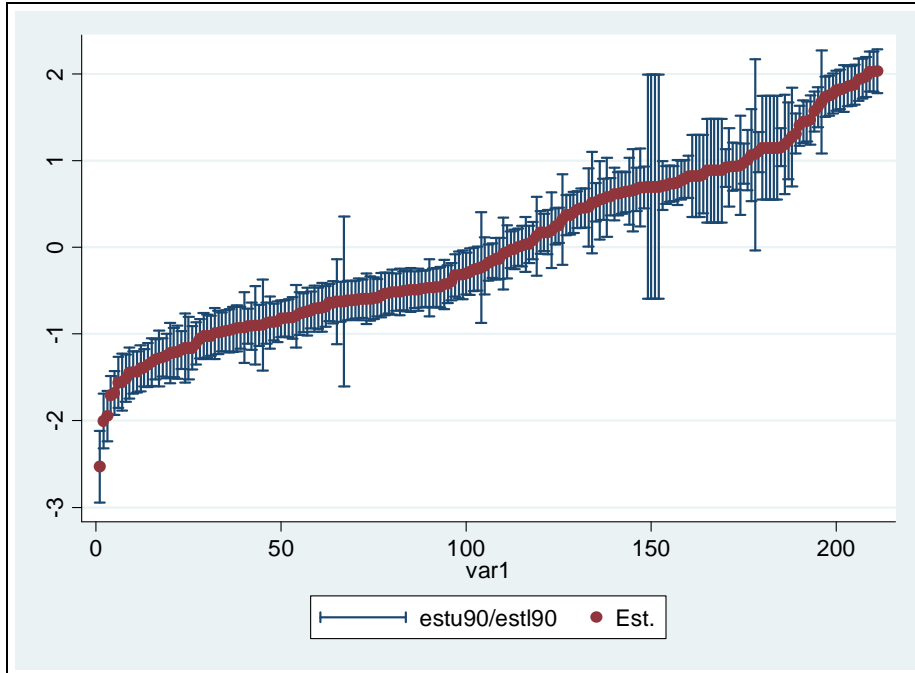
Kaufmann *et al.* underline the uncertainty in the indicators. They show how this limits their use and they give some guidelines about how to deal with uncertainty. First, countries that do not overlap in their confidence intervals can be concluded to have different degrees of governance. Second, there are obvious differences between countries ranking at the top of the distribution and those at the bottom. For countries in the mid-range, however, it is not possible to determine to which ‘group’ they belong. Third, even if the confidence intervals measure the uncertainty of governance indicators, these quantitative measures are an important strength of the WGI indicators. The point estimates provided by the WGI project are more precise than other point estimates provided. This follows (mathematically) from the use of many sub-indicators. Kaufmann *et al.* (1999b) show how their estimated variance increases when the number of sources decreases. Therefore, even if only point estimates are reported for other indicators, statistically these estimates are necessarily less precise than are the WGI indicators.

## 4.2 Some results

There is no space here to review results for all the six governance indicators provided in the WGI project. In order to give examples, a limited number of results are presented.

Figure 2 graphs results from the ‘Rule of Law’ indicator in 2006. The graph is constructed so that countries are sorted in ascending order. Results from the “Rule of Law” indicator are graphed on the y-axis. Together with the results for the indicator, the 90 per cent confidence intervals are also graphed. These are graphed as the vertical lines crossing the point estimates.

**Figure 2**



Source: <http://info.worldbank.org/governance/wgi2007/> and author's calculations.

The governance indicators from the WGI project are normally distributed with mean zero and a standard deviation of one. Therefore, almost all countries' score lies between -2.5 and 2.5.

It is seen from the figure that uncertainty about the point estimates is important. The 90 per cent confidence intervals overlap for countries with very different point estimates. That is, one cannot conclude that a country with an estimated value at the average (zero) has a significantly different quality in 'Rule of Law' as compared to a country with a score equal to for instance 0.2, unless their confidence intervals do not overlap. Overlaps are different for different country pairs.

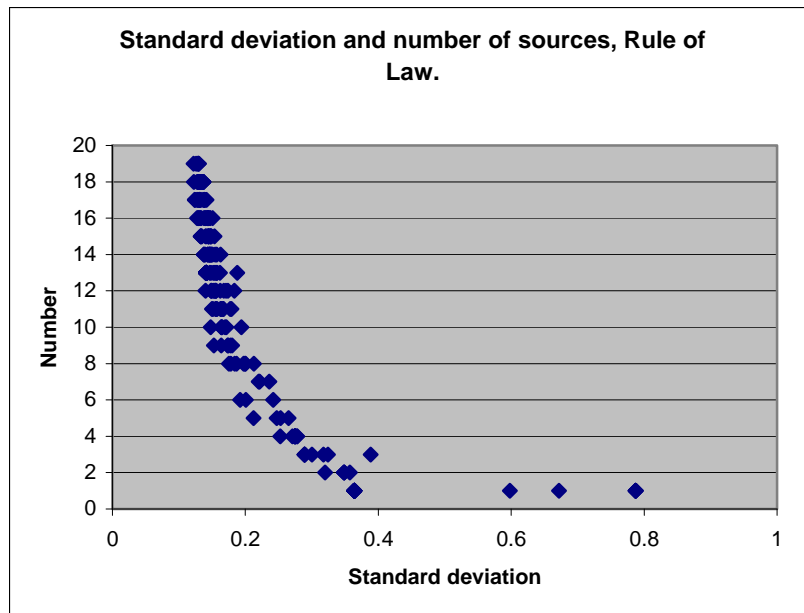
In the 2006 edition of the WGI, the 'Rule of Law' indicator is constructed for 211 countries, that is, for almost all countries in the world. The 2000 edition contained 196 country estimates for this variable.

The differences in the margins of error between countries are the result both of the number of sources per country and differences in the precision of the sources in which each country appears. The importance of the number of sources is illustrated in figure 3. In that figure, estimated standard deviations for the 'Rule of Law' indicator for each country in 2006 are graphed against the number of sources to construct this indicator for each country. It is evident that the number of sources for each country is determinant for the precision. There is clearly a negative relationship between the number of sources to construct this indicator for each country and the precision of the 'Rule of Law' indicator.

Also, countries with an equal number of sources also have reasonably similar standard deviations.

But the precision of sources counts. This is seen from the horizontal intervals for each number of sources: For countries for which the ‘Rule of Law’ indicator is constructed on the basis of the same number of sources, there are still differences in this indicator’s precision.

**Figure 3**



Source: <http://info.worldbank.org/governance/wgi2007/>.

As underlined above, and also by Kaufmann *et al.* in most of their works (e.g. Kaufmann *et al.* 1999a, 1999b and Kaufmann *et al.* 2004), the WGI indicator cannot be used to trace trends in real governance over time. The indicators are scaled to have a mean equal to zero and standard deviation equal to one.<sup>6</sup> Thus they are constructed to be time invariant.

The indicators can be used to trace changes in countries’ ranking over time, however. Some warnings apply, however: Changes in countries’ indicators over time can be the result of five factors. The first is changes in governance that are reflected in the source variables. Real changes generate changes in the indicators (as they should). The second possible reason for change is that some event may cause the perceived governance in a

<sup>6</sup> The following quote from Kaufmann, Kray and Mastruzzi (2006b) is illustrating: “It is important to note that our aggregate indicators are measured in relative units, since we have scaled them to have a mean of zero in each period. This opens the possibility that although many countries do not display large changes over time in their relative positions, it may be the case that there are broad-based improvements in global averages of governance that are not being picked up by our indicators. In order to determine how important this concern is, we have gone back to our underlying data sources,…” (p. 61).

country to change even if there were no change in the real governance quality. This is a source of error that is inherent in *perceived* governance indicators. The third reason why an indicator changes over time is changes in the weights applied to different sources in each period. This may both be the result of changing quality of sources and the inclusion of new sources. The fourth reason is changes in the set of sources for a country. The fifth is addition of new countries to the aggregate indicator that rate systematically better or worse than the country in question. In addition comes that the dimension of governance measured by an indicator could change without changes in the indicator. For instance, if all countries improve their governance similarly, no changes in rankings, and thus in the indicator in question, would occur.

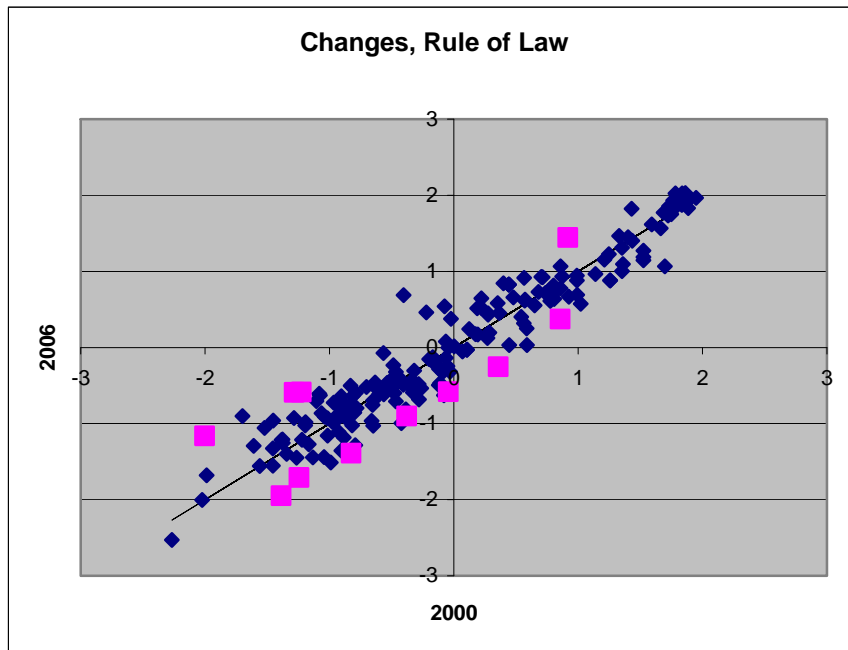
It is a common feature of several governance indicators, in particular composite indicators, that they cannot be used for analysing trends over time for individual countries or for the world at large. They can, however, be used to analyse trends in time for country *rankings* (when account is taken of the cautions above). Such changes can be statistically significant or they can be insignificant. Small changes in country rankings cannot be taken as evidence of significant changes in rankings between countries. Therefore, estimated uncertainty can be used to determine how large changes one needs to conclude that governance has indeed changed.

Kaufmann *et al.* (2004) propose, as a rule of thumb, to focus on changes in governance for countries in which the 90 per cent confidence intervals in the two periods do not overlap. They propose this rule also for absolute changes, i.e. for changes independently of rankings.

Figure 4 graphs results for *Rule of Law* in 2006 and 2000. Countries are graphed according to their position in 2000 and 2006. Countries above the straight line experienced improvement in the 'Rule of Law' indicator in this period while countries below the straight line experienced decline. The main impression from the graph is that country rankings according to the 'Rule of Law' indicator are fairly stable. There is a neat correlation between the scores in 2000 and 2006. The correlation is not perfect, however, and some countries experienced large changes.

Kaufmann *et al.*'s rule of thumb is used to identify which countries in figure 4 that experienced significant changes. These are countries for which the 90 per cent confidence intervals in the two years do not overlap. These are a handful of countries only. They are marked by light squares in the figure. It is seen from the figure that these countries are not necessarily those that experienced the largest changes in absolute sense. For a country to experience significant change, the absolute change has to be large and the estimated errors in both years have to be small. The countries that experienced significant changes in the indicator 'Rule of Law' in this period are listed in table 1. Also the point estimates for the two years, the change in the point estimates and the estimated standard errors are listed.

**Figure 4**



Source: <http://info.worldbank.org/governance/wgi2007/> and author's calculations.

There is no space here for a discussion about changes in the 'Rule of Law' in individual countries. The changes for some of the countries are easy to understand, while changes for some of the others are less intuitive. The decrease in Iraq is clearly due to the US-led invasion and occupation. The improvement in Rwanda is obvious. From genocide to relative peace is a clear improvement. The changes for some of the other countries are less easy to understand or accept. This includes the decrease for Argentina. Argentina experienced a currency crisis in 2002, and Kaufmann *et al.* (2004) write that "Argentina's recent financial crisis is reflected in strong declines in perceptions of governance across the board". It is not self-evident that the Argentinean currency crisis should influence on all governance aspects. But, obviously, the perceptions of them (measured by the indicators) did. Venezuela's decline in perceived 'Rule of Law' is clearly due to the regime of Hugo Chavez.



**Table 1**

Country	estimate 06	St. error 06	estimate 00	St. error 00	change
TRINIDAD AND TOBAGO	-0.26	0.15	0.36	0.15	-0.61
VENEZUELA	-1.39	0.13	-0.83	0.13	-0.57
IRAQ	-1.95	0.18	-1.39	0.16	-0.56
ARGENTINA	-0.58	0.13	-0.04	0.13	-0.54
BOLIVIA	-0.90	0.14	-0.38	0.14	-0.52
ITALY	0.37	0.14	0.86	0.14	-0.48
ZIMBABWE	-1.71	0.14	-1.24	0.14	-0.47
HONG KONG	1.45	0.15	0.92	0.14	0.53
SERBIA	-0.59	0.15	-1.23	0.18	0.64
RWANDA	-0.59	0.18	-1.28	0.23	0.69
LIBERIA	-1.16	0.24	-2.00	0.23	0.84

Source: <http://info.worldbank.org/governance/wgi2007/> and author's calculations.

The six governance indicators produced in the WGI project do not only correlate over time. They also correlate with each other. This is showed in table 2. We present data for 2006 only. Note that *Governance Efficiency*, *Regulatory Quality*, *Rule of Law* and *Control of Corruption* are four indicators that correlate relatively much, while *Voice and Accountability* and *Political Stability* do not correlate with the other variables to a similar degree.

**Table 2**

	VAC	Pol. St.	Gov. E.	Reg. Q.	Rule of L.	Corr.
VAC	1.0000					
Pol. St.	0.7075	1.0000				
Gov. E.	0.8186	0.7283	1.0000			
Reg. Q.	0.8203	0.6810	0.9513	1.0000		
Rule of L.	0.8155	0.8046	0.9405	0.8986	1.0000	
Corr.	0.7933	0.7408	0.9458	0.8908	0.9485	1.0000

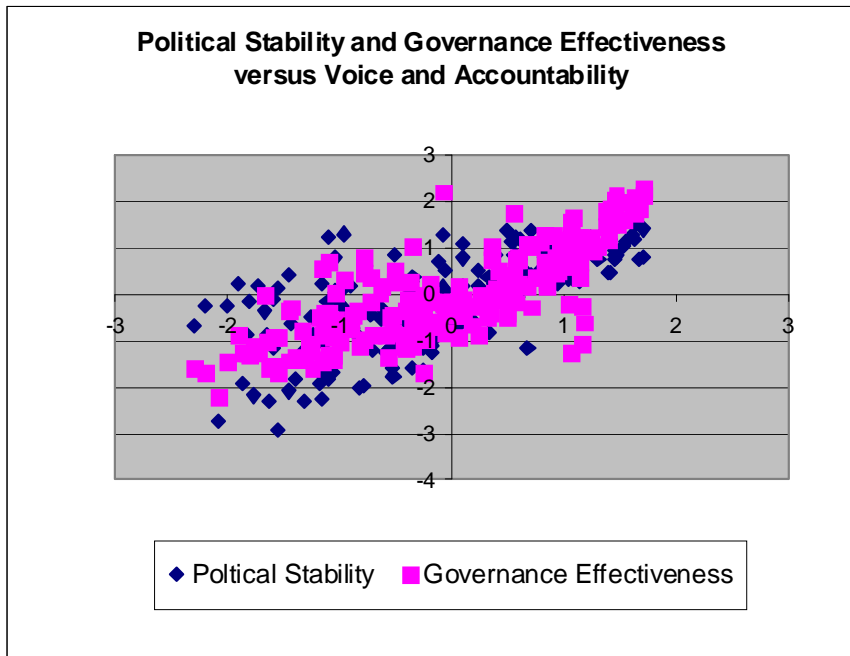
Note: VAC=Voice and Accountability, Pol. St.= Political Stability, Gov. E.=Government Effectiveness, Reg. Q. =Regulatory Quality, Rule of L.= Rule of Law, Corr=Control of Corruption.

Source: <http://info.worldbank.org/governance/wgi2007/> and author's calculations.

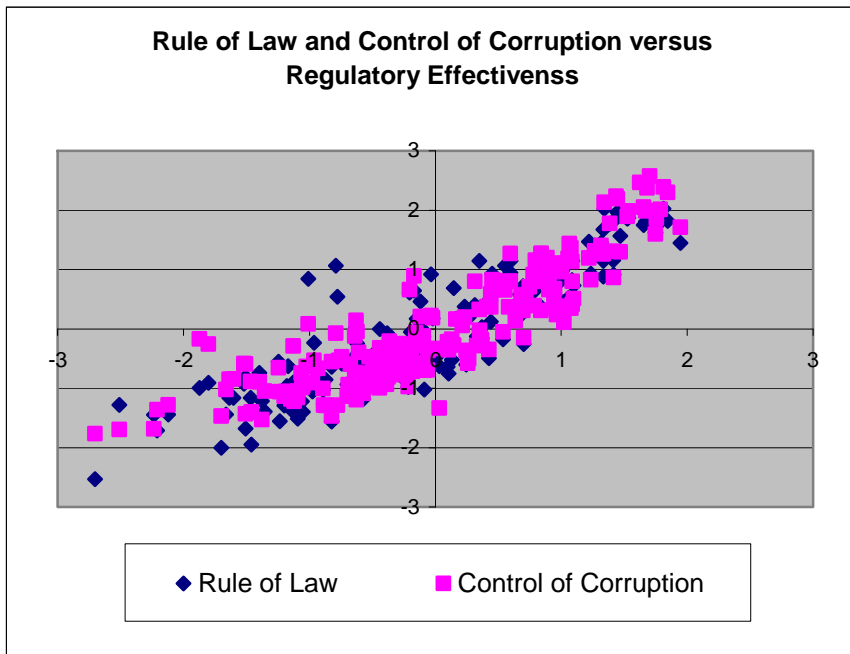
Figures 5 and 6 give a visual expression of these correlations. Figure 5 graphs *Political Stability* and *Governance Effectiveness* (along the vertical axis) against *Voice and Accountability* (horizontal axis). Figure 6 graphs *Rule of Law* and *Control of Corruption* (vertical axis) versus *Regulatory Effectiveness* (horizontal axis).

Both from table 2 and from the figures it is clear that even if WGI's governance indicators correlate with each other, providing different information about the different dimensions of governance. This implies that countries not only differ in their governance quality, but also obtain different scores on different indicators.

**Figure 5**



**Figure 6**



## 5 ‘A House of Straw, Sticks or Bricks’?<sup>7</sup> Can we trust governance indicators?

Governance denotes many dimensions of social life. Attempts to measure this have given rise to a wave of indicators that are used for many purposes. The survey in section 3 and the description of the World Governance Indicators project in section 4 are not exhaustive. Academic, political and commercial interests in governance have become fashionable. Naturally, this has also given rise to a debate on how governance can be measured. We review some elements from the debate.

### 5.1 Subjective or objective measures?

Both the CPI and the WGI indicators are based on perceptions of governance. The data are collected from many surveys and expert opinions that measure peoples’ perception of governance. For many other purposes, measurement is based on objective criteria and most often, objective criteria are believed to be better sources of information than perceptions.

The reasons why perception-based indicators have become so common for governance indicators are two-fold. First, for some types of information, objective criteria are hard to collect or they will be too expensive for cross-country studies. For instance, objective data on time spent on bureaucracy to start a firm can be collected by starting different types of firms in all countries. Clearly, it is simpler and cheaper to ask businessmen about their experience with it.

Second, available objective data will often be misleading. Measures of corruption constitute an example. Direct objective data (like number of court cases) and indirect objective data (like black market premiums) hardly give correct measures of corruption. Number of court cases clearly depends on other variables as well. Black market premiums will similarly depend on many other phenomena. This applies in particular to cross-country and, therefore, cross-cultural studies.

Another example is ‘Rule of Law’, which may be very different in two countries even if they have identical sets of laws. Again it is hard to construct ways to compare ‘Rule of Law’ objectively between countries.

A third example is *Governance Effectiveness*. The number of bureaucrats could indicate good governance, but most often this is not the case.

A fourth is political stability. Williams and Siddique (2007) discuss an example where the United States performed badly on such an index because of the number of protest demonstrations about civil rights and the Vietnam War. Many would argue that citizens’ rights, including the right to demonstrate, favour political stability and improve governance.

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<sup>7</sup> This subtitle is the title of Andvig (2005) who discusses corruption empirics.

Asking people is one way around these problems. By carefully constructed surveys, perceptions about governance effectiveness or corruption may reflect realities of life just as reliably as or even better than objective measures.

Naturally, perception-based indicators reflect perceptions. Therefore, their reflection of reality depends on whether perceptions reflect reality (this applies even though perceptions are a part of reality and influence on other parts). Perceptions may in some instances change fast and faster than fundamentals and in other instances slowly and more slowly than reality.

## 5.2 Whose perceptions are measured?

In many governance indicator sources, surveys are based on questions to business people and very often to the “elite” among business people. Often they are representatives of multinational companies. Many argue that inclusion of such surveys will necessarily bias the results. Good governance for companies need not be good governance for people. This critique has for instance been raised against the Transparency International’s CPI and the WGI indicators. Galtung (2005) writes about the CPI that

*“The sample is not only private sector oriented, it is also overwhelmingly male and economically well off. Effectively this means that this most influential of indices ignores the experiences and perceptions of most women, and of the poor and disenfranchised.”*

Galtung notes that the biased sample selection is also a major advantage in measuring corruption. If measures of corruption were based on national samples only, they would be more affected by national differences in the level of tolerance for corruption. When persons with international experience are included in a survey, these persons are in a better position to compare the situation between countries.

Kaufmann *et al.* (2006a) answer the same type of critique. They have three arguments why they include surveys from the international business community as sources. First, they note that their composite indicators also rely on national surveys. This is so also for Transparency’s CPI. This means that also national voices are included. In the WGI indicators, however, national surveys are given very low weights when results differ from other surveys (since they do not correlate much with the representative sources used as benchmarks). Second, many of the firms included in the cross-country surveys of firms, are small and national. Therefore, it is not correct that only international business people are asked. Third, the extent to which the critique is right depends on the extent to which there are differences between perceptions of business people and other people. Kaufmann and his co-authors cite one example where

*“The correlation between two of our major cross-country firm surveys is 0.74, and the correlation of these firms surveys with a survey of households in Africa is very similar at 0.7.”*

An example can exemplify the rule or the exception, however. Razafindrakoto and Roubaud (2006) provide a different example. They present data from a cross-country survey including 35 000 respondents in several African countries. The survey is complemented with similar questions to 350 experts' opinions on the same issues. The authors report three important findings. First, the experts overestimate the levels of corruption considerably. Second, the ranking of countries in the experts' survey does not reflect the results from the larger population survey. Third, the experts were asked about their beliefs about peoples' responses. Generally, they did not have a clue about public opinions:

*“The experts massively tend to overestimate the population's level of tolerance of corrupt practices and underestimate the importance it attaches to matters of ‘good governance’”.*

The contradicting evaluations of sample selection bias in governance indicators, and also in the composite indicators, should serve as a warning: Business communities may fail in their perceptions about grass-root reality.

### **5.3 Politically biased indicators?**

It is a major ambition of the WGI project that the indicators should not systematically favour governments of particular (right wing?) political orientations. There are many reasons to believe that that is exactly what they do. This is an inherent concern in the construction and use of governance indicators in general. The reason is that choice of governance systems is political. In section 2, this issue was underlined.

Given that one nevertheless is willing to ignore that the premises for measuring governance indicators are about politics, the issue of whether the existing indicators do reflect political ideologies remain. The sample selection in the sources of information is one reason for this. The WGI data are mainly based on perceptions from people, businessmen, politicians and others about dimensions of governance. They have to make political considerations.

Kaufmann *et al.* (2004) test for potential ideological biases. They construct an indicator variable reflecting the political orientation of the government in power in countries around the globe. This indicator variable categorizes regimes as left of centre, centrist and right of centre. They used the World Business Environment Survey 2000 as a benchmark, *assuming this was unaffected by respondent ideology*. Then they tested whether other sources systematically reflected left or right-wing biases. They did find evidence for such a bias in one indicator. This was the Heritage Foundation indicator.<sup>8</sup> For the other sources, there was no systematic bias in any political direction. But this does not assure against political bias since its biasness is *relative to* the World Business Environment Survey that is measured.

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<sup>8</sup> The Heritage Foundation produces the Index of Economic Freedom that covers 162 countries across 10 specific freedoms such as trade freedom, business freedom, investment freedom, and property rights. The Heritage Foundation's stated policy is to contribute to *building an America where freedom, opportunity, prosperity and civil society flourish*.

Also, the categorization of regimes into left and right-wing may be problematic. Was Saddam Hussein a left or right-wing dictator? What about Robert Mugabe?

In section 4, the construction of the *World Governance Indicators* was discussed. It seems clear that many of the indicators reflect some political preferences. Examples of indicators included (one for each six indicator) are *transparency of the business environment* (Voice and Accountability), *likelihood of dramatic changes in institutions* (Political Instability and Violence), *whether government policy is pro-business* (Government Effectiveness), *wage/price control* (Regulatory Burden), *protection of intellectual property rights* (Rule of Law), *mentality regarding corruption* (Control of Corruption). All these source variables do reflect political issues that may easily be controversial. For instance, protection of intellectual property rights is a highly political issue about generating monopoly markets (and thus creating dead weights losses) to increase profits (at the expense of consumers) to stimulate innovation.

#### 5.4 Aggregation procedures

As we have underlined, the WGI indicators are composite of many individual indicators. They are the result of a neat aggregation procedure. This procedure is based on the assumption that errors in each individual source's estimates are not correlated with each other. This is an assumption that has been criticized. Note that this criticism is about correlations in the *error* in the individual sources, not in correlations in their estimates of governance. In fact, correlations in estimates of governance are an important feature that is applied to construct the estimates. Correlations in the errors, on the other hand, constitute a more critical assumption. In order to see this, assume two situations with two sources of information. In the first situation, one has two independent but imprecise measures of governance. In this case, aggregating the two means that one gains information. Since the errors are not correlated, the impact of these errors is reduced by using two instead of one source of information. This is one reason why the WGI (and other indicator sources) uses several sources.<sup>9</sup> In the second situation, assume that the two datasets are identical. In this case, using two instead of one source does not add information at all. The resulting reduction of estimated standard deviations and thus confidence intervals are only mathematical artefacts. Kaufmann *et al.* (see e.g. 2006a and 1999b) recognize that reality is somewhere in between these two situations. They admit that relaxing the assumption of uncorrelated error terms would increase the confidence intervals they construct. These intervals, therefore, are lower bounds on real uncertainty, they argue.

They also argue that the correlation in errors between sources is not very large. One reason is that correlations in governance indicators are high even when sources are principally different. They write

*“average correlation among our five major commercial risk rating agencies for corruption in 2002-2005 was 0.80. The correlation with each of these with a large cross-country*

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<sup>9</sup> Another reason is that by using more sources, one increases the country coverage.

*survey of firms was actually slightly higher at 0.81, in contrast with what one would expect if the rating agencies had correlated errors.”*

It has been disputed whether this is a good answer. One reason is simply that the risk rating agencies could have used the cross-country survey as their source. This uncertainty is a typical one since many of the sources used to construct governance indicators use each other as a source. Arndt and Oman (2006) provide several examples that this is the case for many of the indicators that are used as a source in the WGI project.

Nevertheless, it is obviously right that aggregating sources provide extra information as compared to using only one source. The estimates of uncertainty should therefore not be interpreted as exact, but rather as an indication that governance is not measured exactly. The numeric values of uncertainty should be understood as a mathematical exercise to quantify uncertain measures of governance.

## **5.5 Herd effects and consequences of surprising events**

It is argued that herd effects may influence the results in surveys. This critique is two-fold. First, perception-based indicators may tend to rate governance in countries that perform well better than countries that perform badly. From economic performance, people may wrongly conclude about quality of governance. This phenomenon is referred to as “halo effects”. Kaufmann *et al.* (2006) argue that such “halo effects” have to be implausibly strong in order to account for the observed correlation between governance and per capita income.

Whether such effects are strong or not, the results would tend to both bias the results from surveys of perceptions and to generate correlated error terms (confer subsection 5.4).

Second, some government indicators point to risks in countries. These are for instance political risks. Risk is often measured by probability functions (or rather probability perceptions in surveys) that assign probabilities to certain outcomes, such as likelihood of dramatic changes in institutions. Assume a probability function that assigns a ten per cent risk of violent political regime change during a period. Assume further that such a regime change occurs, but that no other dimensions of governance change. Will the risk perception change? Will perceptions of other dimensions of governance change? Will perceptions of risk in countries being similar to the country in question change? It is certainly likely that the answer to the above questions is ‘yes’. But by considering the questions, it is obvious that ‘no’ also could be an answer. Among countries facing a ten per cent risk of political turmoil, one in ten will actually experience turmoil.

Also, there has been a debate in the literature whether recent events influence more than they should on countries’ scores on governance indicators.

## 5.6 Do estimates of standard deviations really measure uncertainty?

Look at figure 2. In that figure the 90 per cent confidence intervals are graphed as vertical lines crossing the point estimates. Note that there is no tendency that these confidence intervals decrease with the level of “Rule of Law”. A natural hypothesis, however, would be that uncertainty about the quality of governance should decrease with the quality of governance. One consequence of good governance should be good information about how good governance is. This is not reflected in figure 2. Nor is it reflected in any of the other five indicators provided by the WGI project.

This is a consequence of how the confidence intervals are constructed. They vary according to the number of sources included for each country and how the different sources correlate with each other. But as such, one can question whether it really is uncertainty about governance that is measured.

## 5.7 Transparency

Governance indicators have been criticized for lack of transparency for mainly three reasons. The first is that some indicators rely on sources that are not publicly available. This was the case with the World Bank's CPIA indicators. They were made public from 2005 onwards only. But their construction is still not transparent since they rely on a few country experts' opinions. So do many of the sources for the composite indicators.

The second reason for the criticism is that their construction is complicated. The regression and weighting techniques used in for instance the WGI project are hard to understand even for trained persons. The wide use of perception data depends on surveys for which question design and sample selection are important. Answers do depend on subjective opinions and the surveys can hardly be replicated.

The third reason is the use of single numbers to convey the complex nature of governance. This has been discussed above.

## 6. It matters.

In a famous article, Moses Abramovitz (1956) denoted the residuals from growth regression *a measure of our ignorance*. This residual is the result of a decomposing of economic growth into contributions from capital accumulation and use of labour (and other raw materials). In the 1950s, research on economic growth was optimistic on detecting the contribution to growth from capital and labour, respectively.

The residual is what is “left” when contributions from capital and labour are taken into account. It was found that this residual was large. In fact, it constituted the lion's share of observed growth.

The residual has been an important source of motivation for growth theorists who want to detect the real engines of economic growth. It is now widely accepted that technological progress is one such engine of growth. However, in recent years, institutions, property



rights, control of corruption, rule of law etc. have gained increased attention. Rodrik (2004) writes:

*“There is now widespread agreement among economists studying economic growth that institutional quality holds the key to prevailing patterns of prosperity around the world. Rich countries are those where investors feel secure about their property rights, the rule of law prevails, private incentives are aligned with social objectives, monetary and fiscal policies are grounded in macroeconomic institutions, and citizens have recourse to civil liberties and political representation. Poor countries are those where these arrangements are absent or ill-formed”.*

There are indeed many studies that support Rodrik’s words. Various dimensions of governance correlate neatly with the world income distribution. Three examples are:

Kaufmann *et al.* (1999a) report a wide set of correlations of their governance indicators and various development indicators. All six correlate positively and significantly with per capita incomes, negatively and significantly with infant mortality and positively and significantly with adult literacy.

In this paper there is no scope for a review of empirical literature on growth and governance. Maurseth (2009) presents some results from the literature. Three main findings should be underlined here.

First, positive correlations between income levels and governance do not reveal causations. In the literature, it is by now standard to use instrument variable methods to reveal causality. The methodology consists in finding variables that correlate with governance, but not with current levels of income. The ‘predicted’ governance from such a regression is thereafter inserted into regressions that aim to explain income. Such predicted governance levels would reflect the influence from the instrument via governance to income levels, cleansed from two-way causations.

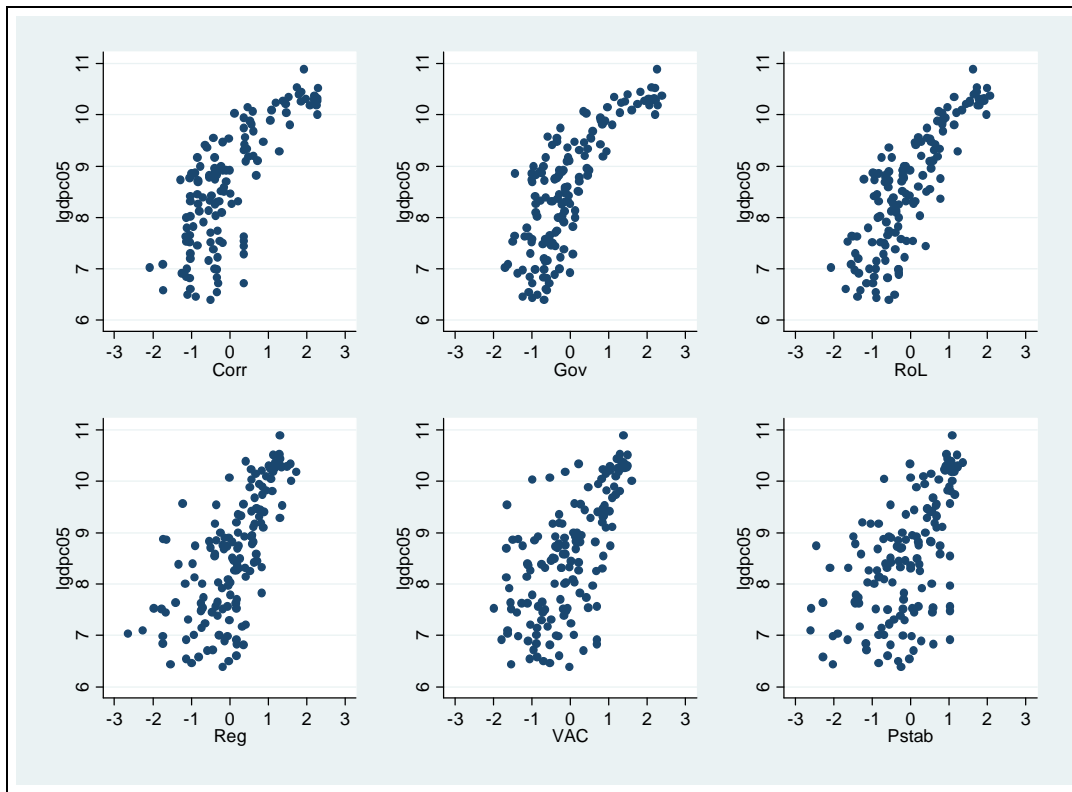
Many studies use this methodology and present convincing evidence that correlations are not spurious or caused by wrong or two-way causations. Figure 7 below therefore (as least partly) reflect a causal relationship from governance to income levels.

Second, the debate is not yet settled. Although instruments are found that could be valid ones, they are disputed. For instance, colonial history is often used as an instrument. The argument is that being a western colony stimulated creation of institutions that foster economic development. However, many variables explain development. Some of them, like geographical variables, may also contribute to explain growth and therefore income, independently of governance.

Third, it is more difficult to explain *growth* than income levels. Studies typically produce less robust results when the dependent variable is growth.

In figures 7 and 8, gross correlations of the six governance indicators and income per capita (2005) and growth (1995-2005) are graphed. The results in figure 7 underline the message from Kaufman *et al.* that governance correlates with income levels. Figure 8, however, gives a different picture. It shows correlations between the six governance indicators and growth in income per capita. The figure indicates that correlations are absent.

**Figure 7: Log of income levels (2005) and governance indicators (2005)**



Source: World Development Indicators (2007) and WGI (2007).

Figure 7 shows the relationships between the six WGI governance indicators and income per capita in 2005. The income variable is (the log of) GDP per capita in 2005. The relationships are clear, positive and significant. Countries that are ranked high with respect to good governance also have high incomes. In Kaufmann *et al.* (1999b), similar results are shown also for infant mortality and for adult literacy. Their results indicate positive correlations between several important economic and social performance indicators and governance.

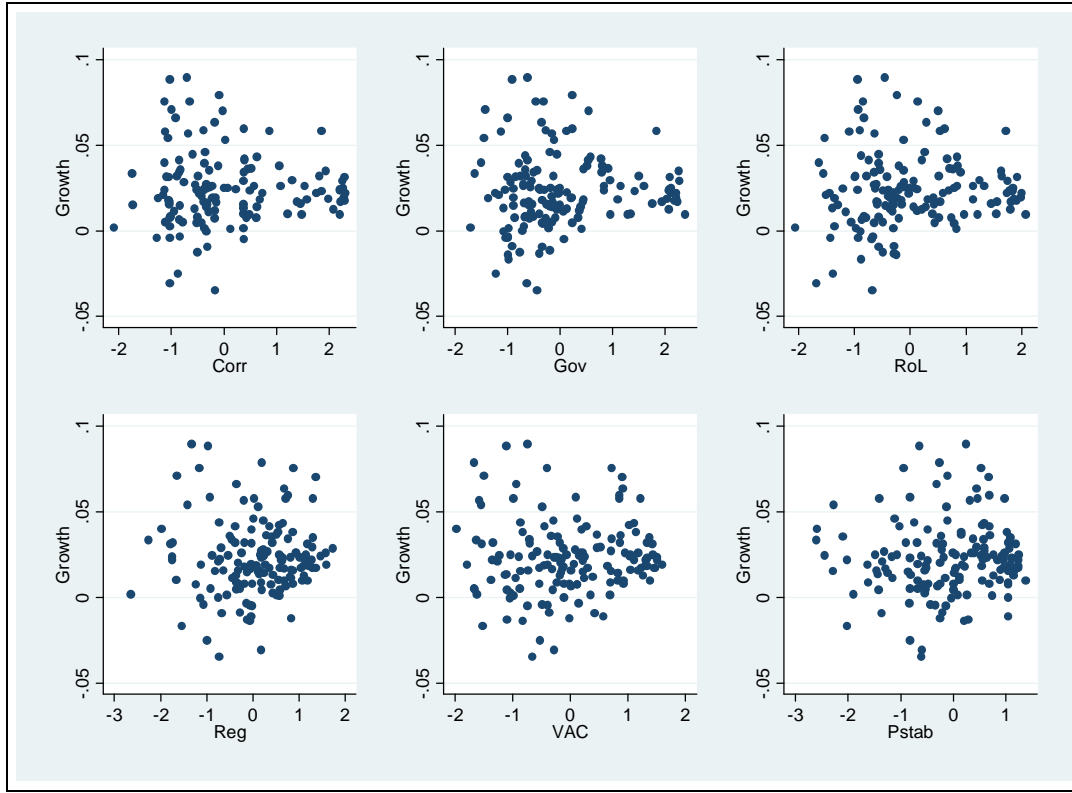
It is seen from the figure that the relationships differ between the six indicators. *Control of Corruption* and *Governance Effectiveness* show non-linear relationships with income. It is as if their effect on income tapers off with growing incomes. These two figures vary similar in shape. In many ways, these two indicators measure similar aspects of governance. For instance, corruption reduces governance effectiveness.

*Rule of Law* seems to have linear and very significant relationship with income per capita. It measures (among other governance dimensions) protection of property rights and the extent of crime. It is remarkable, however, that this indicator is composed of measures of phenomena that are of very different natures. Kidnapping of foreigners, crime, black market and enforceability of contracts enter (together with many other indicators) into this indicator. The seemingly linear relationship therefore measures effects of a wide set of different governance indicators and income per capita.

*Regulatory Burden* measures governance concepts that *a priori* can be believed to be important for economic performance. The indicator measures concepts like trade policy, control of capital flows, legal restrictions on ownership and the like. It is seen, however, that the relationship with income per capita is heterogeneous, even if it is clear and significant. Also heterogeneity is largest for poor countries. This indicates that negative effects of state market intervention are clearest for rich countries and that the effect depends on design in poorer countries. Poor countries obtain both high and low scores according to this index.

The same holds for the two political governance indicators included. Their relationships with income per capita are less significant than for the other four indicators. While *Voice and Accountability* measures political processes, possibilities for political participation and political rights *Political Stability* measures probabilities of armed conflicts, coups, assassinations etc. One reason why these show less significant relationships with income may be that these indicators measure risks rather than real-life situations. High probabilities of military coups may be unpleasant and create uncertainty, but do not necessarily reduce profit of every-day business.

**Figure 8: Growth (1995-2005) and governance indicators (2005)**



Source: World Development Indicators (2007) and WGI (2007).

Figure 8 shows correlations between growth rates and the six WGI governance indicators.

The relationships shown in the figure are remarkable: In essence, their message is that there is no relationship between growth and governance, whatsoever.

Thus, the evidence presented here gives support for the importance of governance. At the same time it illustrates the research agenda of finding robust relationships between governance and economic development in the shorter run.

## 7. Concluding remarks

The above selective review is in line with findings in several studies. Governance matters. Governance correlates with countries' performance in a large set of social and economical phenomena. This cannot come as a surprise, given the very wide definitions of what governance is. Governance denotes how a society is organized. Therefore, it may be tautological to question whether it matters.

Also, there is a two-way causation. Good governance stimulates development, but growth also increases a society's possibilities to build institutions for good governance.

As the research by Kaufmann *et al.* and others indicate, however, governance is a prime factor behind growth. Use of instrumental variables methods has indicated that governance indicators do have independent explanatory power for economic development.

Findings that governance matters abound. The literature is also rich in studies of *how* governance matters. An interesting set of findings is that governance is important for conflict resolution, whether conflicts are caused by trade liberalization, resource abundance or other types of changes.

Governance indicators have become fashionable. Is their frequent use justified? Does it make sense to make use of governance indicators in evaluations of countries' performance? Are they useful tools for investment decisions and for policy design? In their "User's guide", UNDP (2007) proposes three golden rules for users of governance indicators. These are:

- a) Use a range of indicators, not only one governance indicator. A single indicator which captures the subtleties of national situations, in a manner which enables global, non-value laden comparison does not exist.
- b) Use an indicator as a first question, not the last. Scores on a governance indicator cannot reveal all important aspects of governance in a society.
- c) Understand an indicator before you use it. Governance indicators, in particular the advanced composite indicators based on perception data, are complicated.

The first advice reflects the very broad definition of governance and therefore limitations in indicators for it. Governance denotes many types of social organizations. We have underlined above that 'good' ways to organize society depend on the society in question, its development levels, its history and culture. In addition, policy, values and ideology necessarily influence on judgments about good governance. The more aggregated an indicator is, the more it will depend on such subjective criteria. One reason for this is that aggregation also implies weighting. How should one weight freedom of the press as compared to protection of property rights?

The second advice is important when evaluating single countries. An indicator cannot reveal reality in a country. The potential success of an investment or development assistance project can not be decided from looking at country scores on indicators. A look at country scores can, however, be important supplementary information.

As underlined in section 5.7 above, a problem with many governance indicators is that their construction is not transparent. Some of the composite indicators make use of not readily available data. Some also rely on complicated methodology.

There is by now a good supply of government indicators. Their coverage of countries and governance elements differs. So does their quality. This makes it demanding using them. But their many and very different drawbacks should not be an excuse not to use them.

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## Appendix

Name and availability	Coverage	Description
Afrobarometer surveys, <a href="http://www.afrobarometer.org">www.afrobarometer.org</a>	12 African countries	Mass survey that measures peoples' attitude on democracy and economic conditions in Africa
Freedom House Annual Survey of Freedom, <a href="http://www.freedomhouse.org">www.freedomhouse.org</a>	193 countries all over the world	Scores for political rights, civil liberties and a combined freedom index.
Bribe Payers Index <a href="http://www.transparency.org">www.transparency.org</a>	21 countries	Survey that ask respondents to rate the bribe paying behaviour of companies in developing countries.
Business Environment and Enterprise Performance Survey <a href="http://info.worldbank.org/governance/beeps/2002">http://info.worldbank.org/governance/beeps/2002</a>	22 countries in Eastern Europe, former USSR and Turkey	Survey of 400 firms about governance obstacles to business development.
Cingranelli-Richards Human Rights Database <a href="http://www.humanrightsdata.com">www.humanrightsdata.com</a>	161 countries	Database of governments' respect for human rights.
Commitment to Development Index <a href="http://www.cgdev.org">www.cgdev.org</a>	21 OECD countries	Attempts at measuring the extent to which rich countries influence on development.
Corruption Perception Index <a href="http://www.transparency.org">www.transparency.org</a>	180 countries	Measures perceptions about the extent of corruption.
East Asia Barometer Selected indicators available at <a href="http://www.globalbarometer.org">www.globalbarometer.org</a>	8 East Asian countries	Comparative survey of attitudes towards politics, reform, democracy etc in East Asia.
Electoral Quotas for Women Database <a href="http://www.quotaproject.org">www.quotaproject.org</a>	Continuously updated.	Provide data for women in public elections – percentages and numbers of seats reserved for women.
Election Process Information Collection <a href="http://www.epicproject.org">www.epicproject.org</a>	60 countries	Gives overview of laws and rules about nine election topics.
Eurobarometer <a href="http://europa.eu.int/comm/public_opinion">http://europa.eu.int/comm/public_opinion</a>	EU member states and candidate countries	EU citizen attitudes on a number of issues

Gender Empowerment Measure <a href="http://www.undp.org">www.undp.org</a>	70 countries	Measures differences between men and women in participation in politics, in economic activity and in earnings.
Global Accountability Report <a href="http://www.oneworldtrust.org">www.oneworldtrust.org</a>	Organisations, such as World Bank, WTO and the UN and transnational companies, are covered	Expert panel survey of behaviour of non-state agents.
Global Barometer Survey Network <a href="http://www.globalbarometer.org">www.globalbarometer.org</a>	55 countries	Survey results from other barometers
World Bank Governance Indicators, <a href="http://www.worldbank.wbi/governance">www.worldbank.wbi/governance</a>	199 countries	Composite indicator based on many others give 6 different government indicators
Growth Competitiveness Index, <a href="http://www.weforum.org">www.weforum.org</a>	131 countries	Composite index aiming at measuring competitiveness.
Human Rights Indicator <a href="http://www.humanrights.dk">www.humanrights.dk</a>	150 + countries	Countries formal commitments to human rights and violations of human rights.
Index of Economic Freedom <a href="http://www.heritage.org">www.heritage.org</a>	161 countries	Assess countries' degree of market regulations of government interference
Journalists Killed Statistics <a href="http://www.cpj.org">www.cpj.org</a>	Global	Confirmed number of journalists killed in countries in a given year
Media Sustainability Index <a href="http://www.irex.org">www.irex.org</a>	20 European and Eurasian countries	5 aspects of press freedoms
Opacity Index <a href="http://www.opacity-index.com">www.opacity-index.com</a>	35 countries	Business-people are asked about 5 aspects of economical freedom.
Political Constraint Index <a href="http://www.management.wharton.upenn.edu/henisz/">http://www.management.wharton.upenn.edu/henisz/</a>	234 countries	Measures constraints faced by politicians to change a status quo.
Polity IV Countries Report <a href="http://www.cidcm.umd.edu/inscr/polity/index">www.cidcm.umd.edu/inscr/polity/index</a>	160 countries	Assessment of regime characteristics at point in time.
Global Integrity Index <a href="http://www.globalintegrity.org">www.globalintegrity.org</a>	55 countries	Assess mechanisms that prevent abuses of public power.
Women in National Parliaments Statistical Achieve <a href="http://www.ipu.org/wmn-e/world.htm">www.ipu.org/wmn-e/world.htm</a>	189 countries	Per cent and number women in Parliament.

World Governance Assessment <a href="http://www.odi.org.uk">www.odi.org.uk</a>	15 countries	Data on 6 aspects of governance and changes over time.
World Press Freedom Ranking <a href="http://www.rsf.org/article.php3?id_article=24025">http://www.rsf.org/article.php3?id_article=24025</a>	169 countries	Rank countries according to perceived freedom of the press.
World Value Survey <a href="http://www.worldvaluessurvey.org">www.worldvaluessurvey.org</a>	65 countries	Multi-country surveys on several topics from representative samples of people.
International Country Risk Guide <a href="http://www.prsgroup.com/">http://www.prsgroup.com/</a>	161 countries	Assessments of 17 risk components of political and commercial type.
Open Budget Project <a href="http://www.openbudgetindex.org">www.openbudgetindex.org</a>	59 countries	Publicity about central government budget process
CPIA, included in World Development Report.	76 IDA countries	16 criteria in 4 clusters used to assess countries' policies.