

# Legal Indicators: The Power of Quantitative Measures of Law

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## Keywords

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## Abstract

Legal indicators, sometimes known as rule of law indicators, governance indicators, or indicators of public service performance, are quantitative measures of the performance of legal systems. They are used both as sources of knowledge about societies and as means of governing them (technologies of governance). As a result, these indicators have begun to attract considerable attention from scholars, policy makers, and other actors. Key issues include the following: When, why, and by whom are various kinds of legal indicators produced? Are they reliable and valid? How influential are they? Given their influence, should they be regulated, and if so, how? This article reviews recent efforts to answer these questions. The overarching theme is that all of these questions are related to one another.

## INTRODUCTION

Rule of law indicators. Governance indicators. Indicators of public service performance. What many of these indicators have in common is that they purport to measure some aspect of the performance of a legal system. In other words, they are legal indicators. This article is about the remarkable amount of controversy that surrounds legal indicators.

Proponents celebrate legal indicators as means of drawing attention to social problems, tools for rigorous analysis of the causes or consequences of policy interventions, and valuable inputs in decision making about matters ranging from allocation of foreign aid to selection of locations for foreign direct investment. The most prominent indicators are cited frequently in both academic literature and the media.<sup>1</sup> Transparency International's Corruption Perceptions Index has been credited with contributing to "the formation of a global movement and widespread consensus against corruption" (Galtung 2006, p. 108). Literature produced by the World Bank, the IMF, and other international financial institutions frequently refers to indicators such as the Doing Business indicators and the Worldwide Governance Indicators (Davis et al. 2012b, pp. 92–93; Pistor 2012, p. 177). At the International Development Association, the African Development Bank, and the Asian Development Bank, internally generated indicators from the Country Policy and Institutional Assessment (CPIA) figure prominently in the algorithms used to allocate aid across countries. Similarly, the Millennium Challenge Corporation (MCC), a US aid agency, uses indicators of whether a country is "ruling justly" and "encouraging economic freedom," along with indicators of "investing in people," to determine eligibility for grants. Case studies have uncovered several examples of reforms motivated by the objective of raising countries' rankings according to the Corruption Perceptions Index (Galtung 2006) and the Doing Business indicators (Schueth 2011). Finally, indicators can even beget more indicators. A CIA-sponsored effort—the State Failure Task Force (1994–2000)—to identify the determinants of state failure and instability not only produced data and analytical techniques for the CIA and other users but also mobilized a group of scholars who have gone on to become involved in the production of other indicators of state failure (Bhuta 2012).

Critics, either of particular legal indicators or of indicators in general, complain that the metrics are misleading oversimplifications of complex social phenomena that secretly reflect the unstated biases of their creators. The Doing Business indicators in particular have been a lightning rod for criticism. A wide range of nongovernmental organizations, as well as states such as Brazil and China, have complained that the Doing Business indicators, and especially the indicators concerning employment, are biased in favor of neoliberal approaches to labor market regulation (Manuel et al. 2013).

The divergent perspectives on legal indicators reflect radically different views about two issues: (a) Do legal indicators provide sound foundations for beliefs about the phenomena they purport to measure? (b) Do legal indicators have a legitimate role to play in governance? The issues are interrelated. How legal indicators are used may depend on their quality—the demand for obviously flawed indicators is, or at least ought to be, limited—and the quality of indicators that are produced may depend on how they are expected to be used. This article reviews the literature bearing on these and related topics.

The literature on indicators and their use in governance is extensive, but most contributions focus on a specific indicator. A relatively small number of works discuss issues that are common to a broad range of legal indicators (see, for example, Besançon 2003, Arndt & Oman 2006, Taylor

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<sup>1</sup>For examples of media studies, see Pistor (2012, p. 177) (academic citations to articles relying on privately produced country risk indicators) and Davis et al. (2012b, p. 93) (media citations of Doing Business indicators).

2007, Kaufmann & Kraay 2008, Hood et al. 2008, Siems 2011, Davis et al. 2012b, Frydman & Van Waeyenberge 2014). This review is intended to synthesize both sets of literature. The next section defines the concept of a legal indicator. The third section summarizes what we know so far about how and why various kinds of indicators are produced. The fourth section discusses efforts to evaluate indicators in their roles as sources of knowledge. The fifth section discusses indicators in their roles as what my collaborators and I have labeled technologies of global governance. The sixth section discusses regulation of indicators, and the final section concludes by discussing the connections among these various topics.

## WHAT ARE LEGAL INDICATORS?

Davis et al. (2012b, pp. 73–74) define an indicator as follows:

An indicator is a named collection of rank-ordered data that purports to represent the past or projected performance of different units. The data are generated through a process that simplifies raw data about a complex social phenomenon. The data, in this simplified and processed form, are capable of being used to compare particular units of analysis (such as countries, institutions, or corporations), synchronically or over time, and to evaluate their performance by reference to one or more standards.

Legal indicators are indicators whose names suggest they measure the performance of some component of one or more legal systems along a particular dimension. Any legal system has many components that might be captured by an indicator. In the most abstract terms, a legal system is a set of norms—propositions that purport to guide action in specified circumstances—administered, or at least endorsed, by state officials. The norms guide the behavior of both state officials and other actors. Within a legal system we can use the term legal institution to refer to the combination of legal norms and the set of legal officials—whose modes of organization are themselves shaped by the legal system—that administer them. Legal practices are the behavior, beliefs, and relationships that result from the interaction of legal norms, the particular legal officials who administer them, and the environment in which they operate. So for example, the portion of a legal system that governs the use of land includes the norms that regulate the use of parcels of land, the norms that regulate the selection of people to adjudicate property disputes, and the adjudicators themselves. The practices associated with adopting a particular set of land law institutions, in terms of the number of disputes, how they are resolved (or not), and perceptions of those resolutions, will almost certainly vary depending on where they are adopted. We can expect the same land law to function differently in the Australian Outback, Bali, and the highlands of Papua New Guinea.

In principle a legal indicator might measure the characteristics of any or all of legal norms, legal officials, legal institutions, or legal practices. An indicator might also focus on a specific part of a legal system, such as the part that relates to legal norms derived from a particular source (e.g., the constitution, the civil code, the criminal code, the common law, specific statutes, or treaties), particular legal officials, or particular fact patterns. So for instance, a property rights indicator might focus on a specific piece of land titling legislation, officials in a government agency charged with issuing titles, or the overall ease of acquiring secure title to a specific kind of property.

The best known examples of legal indicators provide data at the level of the individual country and cover large numbers of countries. Prominent examples of these global indicators include the Doing Business indicators produced by the World Bank; the Worldwide Governance Indicators, also produced by the World Bank; rule of law indicators produced by the World Justice Project (WJP) and the United Nations; indicators of the strength of property rights produced by consultancies that specialize in advising investors on political risk; and the illustrative list of human rights

indicators compiled by the United Nations Office of the High Commissioner for Human Rights. There are also legal indicators that cover only a single country, although they sometimes provide separate scores for individual government agencies or geographic areas. Examples of these local indicators include the Asia Foundation's Economic Governance Indices, Índice de Confiança na Justiça Brasileira (ICJBrasil) produced by Fundação Getúlio Vargas, transparency in governance ratings produced by Alliance for a Clean Romania, and the Kenya Bribery Index produced by the Kenyan chapter of Transparency International (TI-Kenya). Although local indicators do not permit comparisons across countries, they can be used to make comparisons across agencies or regions within countries as well as over time. Occupying a middle ground between global and local indicators are regional indicators such as the East African Bribery Index produced by TI-Kenya.

## **HOW AND WHY ARE DIFFERENT KINDS OF INDICATORS PRODUCED?**

Examination of what Merry (2011) calls the genealogy of indicators is a burgeoning field of inquiry. The relevant studies cover all phases in the production of indicators, ranging from conceptualization, data collection, data processing, and promulgation through to contestation and revision. They often draw on ethnographic and archival research (see, for example, the studies collected in Davis et al. 2012a and Merry et al. 2014). These studies identify the actors who participate in the production of indicators and shed light on their motivations and objectives, their resources, their allies and their opponents, and the strategies they might pursue as alternatives to using indicators. This information is interesting in its own right but can also help to predict the types of indicators that will be produced.

This body of work has revealed that indicators are often produced by networks that comprise diverse sets of actors. For instance, conceptualization of global legal indicators often involves academics based in prestigious American universities with training in either law, economics, or political science. Data are collected from a variety of sources, including surveys conducted by private firms, nonprofits, governments, and international organizations. Promulgation, the crucial step that involves taking responsibility for naming and publishing the indicator, can involve a similarly broad range of entities. Finally, NGOs, trade unions, governments, and international organizations have all become involved in challenging the design and use of various indicators.

There is no general theory that explains when or why indicators are produced. Büthe (2012) argues convincingly that conventional economic theories are inadequate for this purpose, if only because many of the actors involved in the process clearly are not motivated by the prospect of direct financial gains. Accordingly, Büthe's model treats the production of indicators as a political as well as an economic process. This approach captures the fact that many promulgators appear to be motivated by desires to exercise influence or to attract attention to themselves or the causes they espouse. A model that includes these kinds of noneconomic motivations readily explains why many organizations distribute their indicators free of charge.

There is still much to learn about connections between the circumstances in which indicators are produced and the characteristics of the resulting indicators. Several conjectures seem plausible. For example, actors who wish to attract attention and influence policy might create indicators that focus on social problems whose existence or magnitude is controversial. These actors have an interest in producing indicators that tacitly endorse, and thereby promote, their preferred way of framing a problem, that is to say, their understanding of how to define and measure the extent of the problem. A case in point is Freedom House's Freedom in the World Index. As Freedom House is well aware, few concepts are more difficult to define without controversy than freedom.

Bradley (2014) claims that the Index was deliberately produced to help advance Freedom House's mission "to expand freedom around the world" and to attract attention to Freedom House itself.

The conjecture that attention-seeking or advocacy-oriented organizations will produce indicators that court controversy has an interesting converse: Actors who are already prominent and have mandates to address problems that are already well defined (including by a previous generation of indicators) will produce relatively uncontroversial indicators. This may explain why the World Bank's latest generation of governance indicators focuses on relatively narrowly defined components of legal systems, so-called actionable governance indicators (Reid 2010, Trapnell 2011). Of course, this reasoning does not explain why the World Bank continues to produce the more controversial Worldwide Governance Indicators and Doing Business indicators (Arndt 2008 offers other explanations). A related prediction is that organizations who cannot afford to court controversy will refrain entirely from producing indicators, or at least indicators that will produce low scores for powerful actors.

Another plausible conjecture is that global actors will have an advantage in producing global indicators but will also tend to have limited knowledge of local circumstances and needs in most of the countries they cover. Consequently, global indicators will tend to be less reliable and valid than corresponding local or regional indicators.

Yet another possibility is that constraints on available data will shape the production of indicators. For instance, early rule of law indicators were produced using data that for-profit firms originally compiled to provide foreign investors with information about country risk. Pistor (2012) traces how the rising popularity of the new institutional economics in academic and policy circles created a demand for quantitative data on institutional quality, demand that only the country risk data could satisfy (see also Arndt & Oman 2006 and Taylor 2007). Unfortunately, the country risk data are poor measures of institutional quality, which Pistor argues is unsurprising because they were not designed for that purpose.

Limitations on the availability of data not only restrict the coverage of indicators but also circumscribe their quality. The extent of missing data varies across indicators. Several prominent so-called global legal indicators are actually far from global in scope. At the low end of the range, the WJP Rule of Law Index 2012–2013 edition covers only 97 countries. By contrast, the Worldwide Governance Indicators for 2013 cover 215 countries and territories.

## INDICATORS AS SOURCES OF KNOWLEDGE

There are many controversies over whether specific legal indicators actually help us to understand the phenomena they purport to measure. The debates fall into two categories. First, there is disagreement about whether the indicators measure the concepts their names suggest they measure, or at least versions of those concepts that are useful for either testing theories or guiding policy. In other words, there are debates about legal indicators' validity. Second, whatever the indicators are supposed to measure, there is disagreement about the extent to which those measurements contain errors. That is to say, there are debates about legal indicators' reliability.

These debates are inevitable, for several reasons. To begin with, for reasons about which we have already speculated, the concepts that indicators purport to measure are often inherently controversial—scholars have been debating the meanings of concepts such as corruption and the rule of law since long before the advent of indicators (Ginsburg 2011). When theoretical analyses use many different definitions of a concept, it is unlikely that any single measure will be useful for testing all of the extant theories. In addition, the interesting aspects of legal systems tend to be complex, whereas legal indicators are, by definition, relatively simple. There are typically many plausible ways to simplify a complex system. As a result, there will typically be many plausible ways

to construct any given legal indicator. Simplification also inevitably results in loss of information, giving rise to error. Finally, legal norms, institutions, and practices are all notoriously difficult to measure reliably (Michaels 2009). Written norms can be ambiguous, precedents sometimes conflict or are open to multiple interpretations, the ways in which legal officials administer norms are often unreported, and behavior that deviates from formal legal norms is typically actively concealed.

This is not the place to review controversies peculiar to individual legal indicators. There are, however, several recurring debates worth surveying. These include the following: Should indicators measure norms, institutions, or practices? Should indicators measure behavior or beliefs? How should data that capture different concepts or are collected from different sources be aggregated? Can the process of producing indicators ever be causally independent of the phenomena that are being measured?

### **Norms, Institutions, or Practices?**

Most prominent legal indicators attempt to measure legal practices, explicitly taking into account how authority is actually exercised, how laws are enforced, law in action as opposed to law on the books, *de facto* rather than *de jure* law, etc. In fact, no prominent legal indicator focuses exclusively on legal norms. Some, however, include measures of norms along with measures of institutions and practices. The Global Integrity Index, which focuses on good governance and anticorruption, provides separate measures of a country's legal framework, the actual implementation of that legal framework, and the gap between the two. The World Bank's Doing Business indicators are similar in this respect. These indicators measure the time, cost, and number of procedures involved in completing various hypothetical business transactions, such as the transfer of a warehouse or judicial enforcement of a contract. The number of procedures is a feature of legal norms. But the measures of time and costs are sometimes best characterized as measures of practices. The time and cost required to enforce a contract reflect the interaction of legal norms, the behavior of the officials who administer them, the number of officials and how they are equipped and trained, and environmental factors such as demand for the services of those officials.

The validity of indicators that focus on legal norms rather than practices is sometimes challenged. For example, the Doing Business indicators have been criticized for focusing excessively on legal institutions as opposed to practices, in part because they ignore instances in which the administration of legal norms is influenced by corruption (Manuel et al. 2013, pp. 22–23). These criticisms are unfortunate because measures of norms, institutions, and practices are all potentially valuable to scholars and policy makers. As Glaeser et al. (2004) emphasize, scholarly theories that attempt to explain the long-run relationship between law and economic outcomes often focus on the role of legal norms rather than legal institutions or practices. Efforts to test these sorts of theories clearly demand measures of legal norms, but they should also take into account measures of legal institutions and practices.

Suppose, for example, we wish to understand whether adopting a constitutional norm that limits the government's right to expropriate land leads to positive economic outcomes. We could begin to test this claim by examining correlations between expropriation legislation and measures of growth, investment, or productivity. But the results of this analysis would be misleading without taking into account factors such as whether the legislation is administered by a competent and well-staffed judiciary and the number of cases in which it has to be applied. This more elaborate analysis calls for reliable indicators of norms (such as constitutional provisions), institutional quality (such as judicial competence and staffing), and practices (such as delays in adjudication). Similarly, if policy makers want to understand the extent to which altering legal norms will influence practices—which

is one conception of how to measure the rule of law—they should measure both norms and practices. For these reasons, thoughtful commentators recognize that it is futile to ask whether one of these types of indicator is necessarily more valid than the others (Woodruff 2006, Kaufmann & Kraay 2008).

## Behavior or Beliefs?

At the conceptual level, there is a clear distinction between indicators of behavior and indicators of beliefs. An indicator that measures the number of land titles issued measures behavior. An indicator that measures perceptions of the difficulty of obtaining a title measures beliefs. In practice, however, the distinction between measuring behavior and beliefs is often blurred because behavior is sometimes measured by collecting data on beliefs. A classic example is the WJP Rule of Law Index, which measures “rule of law in practice” and “the conditions experienced by the population” by surveying both the general population and the experts (World Justice Proj. 2014, pp. 4–5).

Indicators like the WJP Rule of Law Index often rely on data from surveys that ask what legal officials will do in specific hypothetical scenarios (see also Gramatikov et al. 2009). These indicators are best understood as measures of beliefs. For example, one of the questions on the WJP survey asks people how likely it is that a court will award fair compensation to homeowners displaced by a public works project. The question is clearly designed to solicit information about beliefs. There is no requirement that the respondent have ever participated in this kind of dispute. In fact, there is no guarantee that the hypothesized behavior has ever occurred (it is possible to form beliefs about the outcome of expropriation litigation even if no court has ever decided a case of the sort).

When an indicator measures beliefs, it is important to specify whose beliefs it measures. In any given country, foreign investors, local managers of multinational enterprises, female microentrepreneurs, and subsistence farmers may all have different beliefs about the legal environment for business. Those differences may or may not reflect differences in how legal officials have behaved toward the holders of the beliefs.

Both indicators that measure beliefs and those that measure behavior are potentially valuable. In a typical legal system, legal norms and legal institutions shape the behavior of legal officials. In turn, people subject to the law act on the basis of their beliefs about legal norms and how they will be administered by legal officials, including in scenarios that may never actually occur. This is the essence of the concepts of deterrence and bargaining in the shadow of the law.<sup>2</sup> So for example, if homeowners believe that judges will block attempts to expropriate property without adequate compensation, they are likely to hold out for compensation in negotiations with the government, and government officials will be deterred from attempting uncompensated takings. This may hold true even if no expropriation case has ever been litigated. Therefore, tracing the causal connections between legal norms, legal institutions, legal practices, and social or economic outcomes, whether for scholarly or policy-making purposes, requires data on both the behavior of legal officials and beliefs about that behavior. As a result, indicators that capture either kind of data are potentially valid.

In order to evaluate the reliability of an indicator, it is critically important to determine whether it is designed to measure beliefs or behavior. Indicators that capture data on beliefs might be reliable measures of beliefs but unreliable measures of behavior. For instance, a well-designed large-scale

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<sup>2</sup>Game theorists have long recognized that the equilibrium of a game will be influenced by players’ beliefs about how the game will be played off the equilibrium path.



household survey can be a very reliable way of measuring beliefs about high-level corruption in government procurement. But a survey of that sort may not be a particularly reliable way to measure the actual incidence of corrupt behavior among high-level officials; members of the general public are unlikely to have direct experience with high-level corruption, and officials typically go to great lengths to conceal it. For those purposes, a survey of experts may be preferable. The importance of specifying what is being measured is sometimes lost in debates about whether corruption is best measured through surveys of households or experts (compare Kaufmann & Kraay 2008 with Razafindrakoto & Roubaud 2010).

## Aggregation

Some legal indicators are very precise, meaning that they measure relatively narrowly defined phenomena. Other indicators aggregate data concerning a variety of legal norms, legal institutions, and/or legal practices, often from multiple sources. Consider an extreme example: the rule of law indicator from the Worldwide Governance Indicators. It measures “the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police and the courts, as well as the likelihood of crime and violence” using a weighted average of scores on perception-based indicators from 24 different sources (Kaufmann et al. 2010, p. 4). This indicator obviously aggregates across different areas of law (criminal law, contract law), legal institutions (police, courts), and legal practices (contract enforcement, abiding by the law). It also aggregates across the individuals who respond to a survey, across questions on a survey, and across surveys.

Aggregation is easiest to defend when the components being aggregated measure the same concept in the same units.<sup>3</sup> This kind of aggregation can be a reasonable way of both mitigating and estimating the amount of measurement error associated with an indicator. In other words, aggregation can serve as a means of both enhancing and checking the reliability of an indicator. Suppose, for instance, that an indicator is designed to measure the likelihood that a randomly selected dispute that came before the courts of a specified country in a specified time frame was resolved without a demand for a bribe. Assume that it is possible to collect data from many litigants, involved in many different types of disputes and in many different courts. Assume that each of these sources provides data based on a separate set of observations of how judges behaved when presented with opportunities to solicit bribes. Under these circumstances, aggregation enhances reliability, especially if the various sources can be weighted in proportion to their reliability (see generally Saisana & Saltelli 2011). The law of large numbers suggests that increasing the number of observations for any given country will reduce the likelihood of arriving at an erroneous estimate of the likelihood of judicial corruption. It is also possible to use the variation across sources to estimate the error associated with each source. The World Bank’s Worldwide Governance Indicators use the correlation between a given source and other sources to estimate the error associated with that source. Sources that are more highly correlated with other sources are deemed to be more reliable. This estimate of reliability is then used to determine the weighting of that source in the indicator.

The idea that more data means more reliability generally depends on strong assumptions that the additional observations are independent of the existing observations and unbiased (Arndt & Oman 2006; Knack 2007, p. 269). If the additional sources contain measurement errors that

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<sup>3</sup>Space does not permit a discussion of the challenges involved in converting measures into the same units when, as is often the case, different methods yield different results (Nardo et al. 2005).



are strongly correlated with those of the existing sources, then aggregation will not enhance the reliability of the indicator. Similarly, if more data means more data that are biased, then greater aggregation can entail diminished reliability. Take our hypothetical indicator of judicial corruption. We will not increase its reliability by adding data that contain a disproportionate number of disputes involving foreign investors as opposed to local firms.

Critics of the Worldwide Governance Indicators have raised versions of these complaints: They claim that a disproportionate amount of their underlying data relies on surveys of foreign experts whose responses may have correlated errors. As a result, the World Governance Indicators may not be any more reliable than indicators that aggregate across a much smaller number of observations. Moreover, if the most popular sources in the indicator have correlated errors, then it is misguided for the producers of the indicator to estimate the reliability of any given source based on the extent to which it is correlated with other sources. These sources may in fact have larger errors than other sources. If that is the case, then using correlation-based estimates of reliability to weight the indicator in favor of more reliable sources will backfire (Arndt & Oman 2006; Knack 2007, p. 270). The producers of the World Governance Indicators acknowledge these concerns but challenge evidence that their sources have correlated errors or that their choice of weighting scheme is of great significance (Kaufmann et al. 2007).

The virtues of aggregation are even less clear when the sources being aggregated measure different concepts. For example, what do we learn from combining measures of corruption in the judiciary with measures of corruption in agencies that issue drivers' licenses? The answer is nothing, unless these two forms of corruption are properly regarded as manifestations of a single broader phenomenon (compare Kaufmann & Kraay 2008 with Knack 2007). If two or more phenomena have neither the same causes nor consequences, then an indicator that combines measures of their prevalence is of little value to scholars or policy makers, and statistical correlations between those measures do not prove they are causally related. For this reason, it is difficult to see what concept of value is measured by the Worldwide Governance Indicators' rule of law indicator (see Thomas 2010)<sup>4</sup> and other indicators that aggregate measures of legal norms and legal practices.

However, a composite indicator that measures multiple dimensions of a single phenomenon can be useful, perhaps even more useful than relatively precise measures. Suppose, for example, that unit increases in measures of violent crime, bureaucratic corruption, and the risk of property being expropriated all have the same economic impact on firms and thus the same consequence, namely, deterrence of private investment. An indicator that aggregates all of these measures will be a valid measure of institutional quality for the purpose of testing theories about the relationship between institutional quality and investment. Now suppose that all of these problematic outcomes are caused by incompetent or corrupt police officers. In that case, the composite indicator will be a valid performance measure for a police commissioner interested in assessing reforms that alter the selection, supervision, or compensation of police officers. Because the outcomes measured by the indicator are all caused by factors within the control of a single decision maker, the indicator will qualify as what Stone (2012) calls an active indicator or what the World Bank might call an actionable governance indicator.

## Endogeneity

Indicators can be influenced by the phenomena that they measure, and vice versa. Consider a situation in which people who object to the publication of indicators try to influence the production

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<sup>4</sup>Compare Voigt's (2012) suggestion that the rule of law can be measured along as many as eight dimensions.

of the offending indicators, perhaps even preemptively (more on this below). Suppose that those efforts will not always be successful, but that some actors, the more powerful actors, are systematically more successful than others. The set of indicators that survives this intellectual gauntlet will tend to be biased in favor of powerful actors, thus compromising the indicators' reliability. Claims that global indicators are biased in favor of actors in the Global North might reflect an instantiation of this problem.

The opposite concern is that the production of an indicator will influence the phenomena it purports to measure. This is a particularly important concern for indicators based on surveys of perceptions, such as Transparency International's famous Corruption Perceptions Index. The problem is that survey respondents might use indicator scores from previous periods as a basis for their responses rather than using their independently derived perceptions of, say, the prevalence of corruption (Knack 2007). The result will be that either the reliability or the validity of the indicator will diminish over time. If the indicator claims to measure actual incidence of corruption, then reliability will be compromised. If it claims to measure independently derived perceptions of corruption, then the problem will be validity.

A variant of this problem arises when indicators that measure behavior are vulnerable to being gamed. Consider an indicator that uses a narrow range of activity to measure a broader phenomenon. For instance, the Doing Business indicators use the number of days it takes to start a medium-sized business in a country's largest business city to measure the ease of starting businesses in the country as a whole. A country can improve its score on this kind of indicator by reducing delays facing mid-sized businesses in the capital city without addressing obstacles to doing business in the rest of the country. Over time, the effect will be to reduce the validity of the indicator as a measure of the broader phenomenon of ease of doing business (Davis & Kruse 2007, p. 1116).

It is tempting to jump from speculating about whether legal indicators are influenced by endogenous factors to assuming that this is a significant and pervasive problem. Kaufmann et al. (2007) remind us that whenever possible, it is preferable to attempt to assess the extent of the problem empirically.

## INDICATORS AS TECHNOLOGIES OF GLOBAL GOVERNANCE

Much of the critical attention that legal indicators have attracted is motivated by concerns about their influence. I once heard a former government official from a small middle-income country describe indicators as a form of "global subliminal conditioning." She meant that indicators influence the ways countries are perceived—by donors, investors, voters, tourists, consumers, immigrants, and others—and those perceptions in turn influence behavior and the distribution of power and resources. In Davis et al. (2012b), Benedict Kingsbury, Sally Merry, and I say that when indicators operate in this fashion they function as "technologies of global governance." This aspect of indicators has only recently begun to attract scholarly attention. A burgeoning body of research focuses on how indicators, including legal indicators, influence attitudes, beliefs, social relationships, and decisions, as well as the resulting political and economic consequences (see, for example, Davis et al. 2012a, Frydman & Van Waeyenberge 2014).

### Evidence of Influence

There is little conclusive evidence that legal indicators are influential. This is largely because of the inherent difficulties of observing causal connections between indicators and their effects. Sometimes the problem is that beliefs and attitudes and social interactions are difficult to observe.

Another problem is that strictly speaking, we can evaluate the influence of an indicator only by considering the counterfactual scenario in which the indicator did not exist and actors could rely solely on other sources of information, but the counterfactual is unobservable.

So for instance, we know that certain indicators are cited frequently in prominent media outlets. We do not know, however, to what extent the information contained in those indicators penetrates the consciousness of the audiences for those publications, in the sense of changing their beliefs or attitudes. Similarly, when organizations claim to use indicators as criteria for making important decisions or as reasons for undertaking reforms, it can be a challenge to determine whether to take the claims at face value. One source of difficulty is that actors often rely on many different kinds of data in the course of deciding whether and how to address problems, and they do not necessarily understand, record, or disclose the elements of their decision-making processes. Even among organizational actors, those with highly formalized and transparent decision-making processes are the exception rather than the rule. Another source of concern is that the mere fact that an indicator is referred to by a person does not mean that it has any influence upon his or her subsequent actions. This is particularly true of large organizations, which frequently collect more data than they use in decision making. As Feldman & March (1981) have argued, reasons for this practice include uncertainty about what sort of data will be relevant to decision making, the desire to have data that can be used to justify a decision after the fact, and the desire to display a symbolic commitment to evidence-based decision making. Finally, claims that indicators have generated new social structures can be difficult to evaluate because the relationship between cause and effect is not always clear: Does the process of producing an indicator cause mobilization, or is it the reverse?

### **What Explains the Influence of Indicators?**

Despite these caveats, taken as a whole the evidence strongly suggests that at least some legal indicators are influential. A question that demands further study, especially for producers of indicators, is, what factors explain the impact of indicators?

Existing theoretical frameworks shed some light on this question. For example, Davis & Kingsbury (2012) sketch how conventional microeconomic theory, grounded in rational choice assumptions, might be adapted to explain how actors will choose to devote scarce resources to acquiring the information embodied in indicators and using that information as a basis for action. In this framework, both the costs and the benefits of accessing the information contained in indicators determine the extent to which indicators will shape beliefs. On the cost side, the simplicity of indicators compared with other sources of data makes them relatively appealing. Indicators that are disseminated free of charge and presented in user-friendly formats are also likely to be relatively appealing. Meanwhile, on the benefit side of the equation, people will tend to value indicators they perceive to be valid and reliable, which for policy makers will involve considering the extent to which the indicators are “active” (Stone 2012). Potential users will also take into account the availability of substitutes and complements for any given indicator. Indicators that offer different information from other sources will tend to be more valuable. A caveat though is that the reliability of such indicators may be more suspect because they cannot be cross-checked against other sources. Indicators for which complementary products such as online analytical tools are readily available will tend to be more valuable. Network and learning effects and herd behavior may also factor into analyses of the benefits of indicators (Arndt 2008, Davis & Kingsbury 2012). For instance, indicators with broader coverage, among both targets and users, will be more valuable. The more countries an indicator covers, the more useful it is as a tool for ranking. The more readers who are familiar with an anticorruption indicator, the more sense it makes to use that indicator to describe corruption in a country.

The rational choice approach almost certainly misses important determinants of the influence of indicators. The mechanisms that determine the influence of indicators may be neither rational nor choices. The extent to which people rely on a particular indicator may be explained primarily by sympathy for the mission or ideals, or even the general style, of the producer rather than rational analysis of the organization's incentives, capacity, or past performance. This kind of irrationality seems especially likely if indicators influence attitudes and beliefs subliminally rather than through actors' conscious choices about which information to rely upon.

Theorizing about the influence of indicators should not focus exclusively on the impact of disseminating the information embodied in indicators. The processes of creating, producing, and contesting indicators also have important social, economic, and political consequences. Bradley's (2014) study of Freedom House shows how the process of creating and producing an indicator can shape the reputation, credibility, and prestige of an organization. To give a concrete example, Akech (2014) reports that low rankings in the TI-Kenya Bribery Index prompted several government agencies to request assistance from TI-Kenya with anticorruption programs. Similarly, the process of criticizing indicators and contesting decisions based upon them can mobilize and empower critics. This certainly appears to have occurred in relation to the Doing Business indicators. It seems implausible, however, that we will ever be able to make reliable generalizations about such complex and contingent interactions.

### **Economic and Political Implications**

Suppose we stipulate that indicators are influential; what are the economic and political implications? In other words, how do the creation, production, dissemination, and contestation of indicators alter the distribution of wealth and power in affected societies? Are the resulting distributions of wealth and power more or less just and legitimate?

It seems intuitive that decisions based on relatively simple data sets—such as indicators—will be relatively transparent and consistent. In one of the few systematic efforts to examine this kind of conjecture empirically, Dutta (2014) finds that the MCC's indicator-based decision-making process is, in fact, highly legible, in the sense that it is easy for an observer to identify the basis for decisions. Transparency and consistency are commonly viewed as characteristic features of legitimate decision making. This, in turn, implies that making decisions on the basis of indicators as opposed to other kinds of information will tend to enhance legitimacy. However, in Davis et al. (2012b, p. 86), we argue that the transparency of indicator-based decisions will be illusory unless the process of determining scores on indicators is also transparent. Typically, the process of producing indicators will be more transparent to some people than others. Relatively few people may have the technical expertise and resources to understand how scores on indicators are determined and to play a role in producing or contesting indicators. In this view, the more influence indicators exert, the more power will be concentrated among technocrats and the less scope there will be for broad-based participation in political debates. Rosga & Satterthwaite (2009) observe, however, that this concern does not necessarily arise when indicators are used by members of civil society to hold governments to account for violations of human rights.

There may be another kind of price paid for the simplicity of indicators: Decisions based on limited data are more likely to be incorrect. This effect may be exacerbated over time as the availability of indicators reduces the demand for, and thereby discourages the production of, other kinds of data. Hammergren (2011) worries in particular that the availability of indicators will limit incentives for courts and other legal institutions to develop their own performance data and management information systems.

Other claims about the economic or political implications of indicators' influence draw on theories concerning which actors produce which types of indicators and what kind of influence those indicators exert. A prominent theme in much of the literature is that organizations located in or dominated by people from the Global North are inclined to produce global indicators that embody their own worldviews and reflect their relatively limited information about local conditions. The fear is that the influence of these indicators will be disproportionate to their reliability and validity. Interestingly, this prediction is not entirely compatible with rational choice theory, which suggests that actors will discount the value of indicators they expect to be biased or otherwise unreliable or invalid.

Attention should also be paid to the consequences of missing data. Is it a blessing or a curse when a rule of law indicator provides a score for the Central African Republic? The answer presumably depends on who would calculate the score, what kinds of decisions will be made using the information embodied in the score, and the implications of being left out of the process of creating, producing, and contesting that score.

## REGULATION OF INDICATORS

Concerns about the influence of legal indicators have prompted calls for regulation. Responses to those calls might involve controlling the processes by which indicators are produced or used, reviewing the substantive merits of individual indicators, subsidizing certain producers with a view to stimulating competition, attempting to educate or empower users of indicators (Davis et al. 2012b), or even producing indicators of the quality of indicators (Hood et al. 2008). The demand for regulation of indicators does not come exclusively from academics; a review of the Doing Business indicators project concluded with recommendations for the adoption of an improved governance structure, including oversight by both internal and external reviewers (Manuel et al. 2013).

Cassese & Casini (2012) justify this kind of regulation by reference to principles of global administrative law. When interpreted as a normative theory, global administrative law holds that the exercise of public power by actors beyond the state should be subject to familiar public law principles, such as legality, impartiality, transparency, accountability (which includes review mechanisms and reason giving), and participation (Kingsbury et al. 2005). Cassese and Casini argue that global administrative law principles ought to apply whenever an indicator is used in a binding rather than a voluntary way. In the paradigmatic scenario, good performance on an indicator is required to obtain a favorable decision on a consequential matter from a public body such as an aid agency or an international financial institution. In these sorts of cases, the state faces pressure to score highly on the indicator and does not choose voluntarily whether to adopt the standards it embodies. Cassese and Casini acknowledge that it will not always be straightforward to distinguish binding from voluntary indicators. For instance, in their approach, the extent to which sovereign credit ratings—which are produced and used by private actors—qualify as binding indicators seems to depend on how they are used and the extent to which they have to compete with other indicators.

Von Bogdandy & Goldman (2012) also claim that certain indicators ought to be regulated by public law principles, as should other kinds of national policy assessments that might not be sufficiently quantitative to qualify as indicators. Von Bogdandy and Goldman would limit the application of public law principles to cases that involve the exercise of public authority, which they define as “the making of unilateral decisions taken in the name and interest of an overarching, general entity, and their enforcement” (p. 62). This approach excludes indicators produced by private actors. Von Bogdandy and Goldman defend this position by pointing out that in liberal

legal orders, regulation of private actors is constrained by the need to respect certain fundamental rights, most notably freedom of speech, whereas there are no such constraints on regulation of public actors.

## CONCLUSION

At first glance, the study of legal indicators appears to be highly fragmented, with different scholars analyzing a wide range of indicators for a variety of purposes. As we have seen, there is a great deal of truth underlying this perception. Legal indicators cover different areas of substantive law and can focus on any or all of legal norms, institutions, or practices. They can measure the law as it is reflected in either people's beliefs or their behavior. And scholarship about indicators aims to answer several different questions. A surprisingly large amount of the commentary on these indicators is devoted to determining whether they are valid measures of particular concepts, perhaps because the names attached to legal indicators often tell us little about what they measure. Other analyses examine the reliability of the indicators, why they are produced, how much influence they have, their economic and political significance, and how they ought to be regulated.

At the same time, there are fundamental interconnections among these inquiries. The answers to the questions that scholars and policy makers have asked about legal indicators are all related. Questions of how legal indicators ought to be regulated cannot be answered without determining the economic and political significance of indicators. This in turn depends on what kinds of influence are exerted by legal indicators, which depends on the kinds of indicators produced, which may be explained by who produces the indicators and why. Moreover, analyses of one kind of legal indicator are likely to shed light on other legal indicators because the indicators themselves typically measure different facets of an integrated system. Different areas of substantive law; legal norms, institutions, and practices; and behavior and perceptions of law—all of these facets of the legal system inevitably interact with one another, so it is difficult to learn something about one facet without gaining a better understanding of the others. All of this suggests that although the study of legal indicators may initially appear to be highly fragmented, there is a strong case to be made for treating it as a single field.

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## LITERATURE CITED

- Akech M. 2014. Evaluating the impact of corruption (perception) indicators on governance discourses in Kenya. See Merry et al. 2014. In press
- Arndt C. 2008. The politics of governance ratings. *Int. Public Manag. J.* 11:275–97



- Arndt C, Oman C. 2006. *Uses and Abuses of Governance Indicators*. Paris: Org. Econ. Coop. Dev. (OECD)
- Besançon M. 2003. *Good governance rankings: the art of measurement*. WPF Rep. No. 36, World Peace Found., Cambridge, MA
- Bhuta N. 2012. Governmentalizing sovereignty: indexes of state fragility and the calculability of political order. See Davis et al. 2012a, pp. 132–62
- Bradley CG. 2014. International organizations and the production of indicators: the case of Freedom House. See Merry et al. 2014. In press
- Büthe T. 2012. Beyond supply and demand: a political-economic conceptual model. See Davis et al. 2012a, pp. 29–51
- Cassese S, Casini L. 2012. Public regulation of global indicators. See Davis et al. 2012a, pp. 465–74
- Davis KE, Fisher A, Kingsbury B, Merry SE, eds. 2012a. *Governance by Indicators: Global Power Through Classification and Rankings*. Oxford, UK: Oxford Univ. Press
- Davis KE, Kingsbury B. 2012. *Indicators as Interventions*. New York: Rockefeller Found.
- Davis KE, Kingsbury B, Merry SE. 2012b. Indicators as a technology of global governance. *Law Soc. Rev.* 46:71–104
- Davis KE, Kruse M. 2007. Taking the measure of law: the case of the Doing Business project. *Law Soc. Inq.* 32:1095–119
- Dutta N. 2014. Qualitative and quantitative conditionality: accountability in the EU accession and MCC processes. See Merry et al. 2014. In press
- Feldman M, March J. 1981. Information in organizations as signal and symbol. *Adm. Sci. Q.* 26:171–86
- Frydman B, Van Waeyenberge A. 2014. *Gouverner par les Standards et les Indicateurs: De Hume aux Rankings*. Brussels: Bruylant
- Galtung F. 2006. Measuring the immeasurable: boundaries and functions of (macro) corruption indices. In *Measuring Corruption*, ed. C Sampford, A Shacklock, C Connors, F Galtung, pp. 101–30. Aldershot, UK: Ashgate
- Ginsburg T. 2011. Pitfalls of measuring the rule of law. *Hague J. Rule Law* 3:269–80
- Glaeser EL, La Porta R, Lopez-de-Silanes F, Shleifer A. 2004. Do institutions cause growth? *J. Econ. Growth* 9:271–303
- Gramatikov M, Barendrecht M, Laxminarayan M, Verdonchot JH, Klaming L, Van Zeeland C. 2009. *A Handbook for Measuring the Costs and Quality of Access to Justice*. Portland, OR: Maklu
- Hammergren L. 2011. Indices, indicators and statistics: a view from the project side as to their utility and pitfalls. *Hague J. Rule Law* 3:305–16
- Hood C, Dixon R, Beeston C. 2008. Rating the rankings: assessing international rankings of public service performance. *Int. Public Manag. J.* 11:298–358
- Kaufmann D, Kraay A. 2008. Governance indicators: Where are we, where should we be going? *World Bank Res. Obs.* 23:1–30
- Kaufmann D, Kraay A, Mastruzzi M. 2007. *The Worldwide Governance Indicators project: answering the critics*. Policy Res. Work. Pap. No. 4149, World Bank, Washington, DC
- Kaufmann D, Kraay A, Mastruzzi M. 2010. *The Worldwide Governance Indicators: methodology and analytical issues*. Policy Res. Work. Pap. No. 5430, World Bank, Washington, DC
- Kingsbury B, Krisch N, Stewart RB. 2005. The emergence of global administrative law. *Law Contemp. Probl.* 68:15–61
- Knack S. 2007. Measuring corruption: a critique of indicators in Eastern Europe and Central Asia. *J. Public Policy* 27:255–91
- Manuel T, Arruda C, Azour J, Bai C-e, Besley T, et al. 2013. *Independent Panel Review of the Doing Business Report*. Washington, DC: Ind. Doing Bus. Rep. Panel. <http://www.dbrpanel.org/sites/dbrpanel/files/doing-business-review-panel-report.pdf>
- Merry SE. 2011. Measuring the world: indicators, human rights, and global governance. *Curr. Anthropol.* 52:S83–95
- Merry SE, Davis K, Kingsbury B, eds. 2014. *The Quiet Power of Indicators: Measuring Governance, Corruption, and Rule of Law: The Production and Use of Indicators for Global Governance*. New York: Cambridge Univ. Press. In press



- Michaels R. 2009. Comparative law by numbers? Legal origins thesis, Doing Business reports, and the silence of traditional comparative law. *Am. J. Comp. Law* 57:765–79
- Nardo M, Saisana M, Saltelli A, Tarantola S, Hoffman A, Giovannini E. 2005. *Handbook on constructing composite indicators: methodology and user guide*. Stat. Work. Pap. No. 2005/03, OECD, Paris
- Pistor K. 2012. Re-construction of private indicators for public purposes. See Davis et al. 2012a, pp. 165–79
- Razafindrakoto M, Roubaud F. 2010. Are international databases on corruption reliable? A comparison of expert opinion surveys and household surveys in sub-Saharan Africa. *World Dev.* 38:1057–69
- Reid GJ. 2010. *Actionable Governance Indicators: Concepts and Measurements*. <http://siteresources.worldbank.org/EXTPUBLICSECTORANDGOVERNANCE/Resources/286304-1235411288968/AGIConceptsMeasurement.pdf>
- Rosga A, Satterthwaite ML. 2009. The trust in indicators: measuring human rights. *Berkeley J. Int. Law* 27:253–315
- Saisana M, Saltelli A. 2011. Rankings and ratings: instructions for use. *Hague J. Rule Law* 3:247–68
- Schueth S. 2011. Assembling international competitiveness: the Republic of Georgia, USAID, and the Doing Business project. *Econ. Geogr.* 87:51–77
- Siems MM. 2011. Measuring the immeasurable: how to turn law into numbers. In *Does Law Matter? On Law and Economic Growth*, ed. M Faure, J Smits, pp. 115–36. Cambridge, UK: Intersentia
- Stone C. 2012. Problems of power in the design of indicators of safety and justice in the Global South. See Davis et al. 2012a, pp. 281–94
- Taylor V. 2007. The law reform olympics: measuring technical legal assistance in transition economies. In *Law Reform in Developing and Transitional States*, ed. T Lindsey, pp. 83–105. New York: Routledge
- Thomas MA. 2010. What do the Worldwide Governance Indicators measure? *Eur. J. Dev. Res.* 22:31–54
- Trapnell SE. 2011. Actionable governance indicators: turning measurement into reform. *Hague J. Rule Law* 3:317–48
- Voigt S. 2012. How to measure the rule of law. *Kyklos* 65:262–84
- Von Bogdandy A, Goldman M. 2012. Taming and framing indicators: a legal reconstruction of the OECD's Programme for International Student Assessment (PISA). See Davis et al. 2012a, pp. 53–85
- Woodruff C. 2006. Measuring institutions. In *International Handbook on the Economics of Corruption*, ed. S Rose-Ackerman, pp. 105–24. Northampton, MA: Edward Elgar
- World Justice Proj. 2014. *World Justice Project Rule of Law Index 2014*. Washington, DC: World Justice Project