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A New Approach to the Study of Transparency

Transparency endures as a mantra for many policymakers concerned with improving life in the developing world. Asked how to improve governance in developing countries, the managing director of the International Monetary Fund, Christine Lagarde, has answered emphatically: "Transparency, transparency, transparency!"[1] The international community has lauded efforts of some states, such as Bulgaria, Mexico, and South Korea, for increasing their historic levels of transparency, sometimes even heralding them as economic and political miracles. Other states, such as Argentina, Bangladesh, and Zimbabwe, have lost credibility due to their failure to report credible information about the state's economic activities.

Why are some countries more transparent than others? And what are the consequences – economic and political – of increased transparency? This book seeks to address these questions using an innovative measure of transparency. While we confirm some broadly held views, we also introduce new and surprising findings.

In essence, the book is about the role of the informational environment in political economy. Political action, such as voting or protest, requires coordination across individuals. Coordination, in turn, requires information – not just any information, but shared information. That is, mass political coordination requires information about actors' higher-order beliefs: their beliefs about what other actors believe. The informational environment matters for mass coordinated political action.

The first puzzle we confront in our work is a measurement problem: how to gauge the transparency of economic information. We take advantage of something that usually stands as an obstacle to research: missing data. We observe

[1] Georgetown University, Washington, DC, October 2, 2014.

that missing data are data. We use patterns of reporting data as a proxy for the publicness of credible economic information.

Using this measure, we find that more transparent countries attract higher levels of investment and that transparency stabilizes democracies. A rich informational environment facilitates economic decision-making and it enables voters to discriminate between good and bad leaders. When elections function better, democracies face fewer protests, enjoy greater legitimacy, and become more likely to survive. Not surprisingly, democracies tend to be more transparent than autocracies.

When it comes to the political stability of autocracies, however, we find less intuitive patterns. As autocratic regimes become more transparent, they face higher risks of upheaval due to unrest among the masses. Increasing the availability of information about government performance enables the masses to more effectively engage in collective protest. Still, autocrats face risks beyond the masses outside the halls of power. They also face risks from within the elite – members of the inner circle of the regime. At the same time as it facilitates mass protest, transparency lowers the risks of coups led by the elite whose loyalty to the regime leadership increases with the risk of mass upheaval. When the masses stand at the gate, the elites must unite behind their leadership to prevent the downfall of the entire regime.

In sum, increasing transparency leads to an uncertain future for the autocratic regimes. On the one hand, it may facilitate mass mobilization, which sometimes results in democratization from below and sometimes causes one autocratic regime to be replaced by a new one; on the other hand, it may simply unite the elites behind their leader, further entrenching the incumbent leadership.

The pages ahead unpack the logic and empirics of these varied effects of transparency on political stability.

This book makes a further contribution by relying on a new measure of transparency – one that eschews subjective opinions about the transparency of countries in favor of using more objective measures from economic data. Indeed, before we can develop arguments about the determinants and consequences of transparency, we first must address a basic question: What does transparency really mean?

Ultimately, transparency concerns the dissemination of information. Many forms of information exist, and they can be disseminated through various channels to different audiences. Thus transparency has many facets. We take an original approach, focusing on *the dissemination of aggregate economic data through international organizations.*

We recognize the value of measuring other forms of transparency and we address them throughout the book. Numerous studies have employed alternate conceptions of transparency (Berliner and Erlich 2015; Berliner 2014; Besley and Burgess 2002; Djankov et al. 2003; Grief 2006; Habyarimana et al. 2009;

Kosack and Fung 2014). These alternative conceptions include the openness of political institutions (Bremmer 2006; Broz 2002; Dahl 1971), freedom of the press or circulation of the press (Adserà, Boix, and Payne 2003; Brunetti and Weder 2003), the presence of freedom of information laws (Berliner 2014; Islam 2006), and access to the Internet (Milner 2006a). These conceptions represent valid approaches for certain theoretical questions.

For our project, we use a narrow conception of transparency – one that focuses on the dissemination of economic data. The dissemination of economic data as a measure of transparency is of central importance to political economy. The availability of aggregate data affects decisions about investment, resource allocation, and consumption. Market participants constantly rely on data measuring the size and growth of the gross domestic product per capita, trade and monetary statistics, unemployment, inflation, and many other economic indicators. These data have inherently political roots because the state has the unique capacity – the required labor power and scope of authority – to collect them. As we will reveal, the availability of credible aggregate economic data has consequences for the performance of the economy and for the stability of the state.

Other measures of transparency, which incorporate political or economic openness, may create a tautological relationship between the effect of transparency and various political or economic outcomes. For example, if the coding of transparency directly incorporates the presence of democratic institutions, a correlation between such a measure and democracy is neither surprising nor interesting. Similarly, if the coding of transparency directly incorporates the ease with which investment flows into a country, the measure cannot be used to test the effect of transparency on investment.

Our measure of transparency is precisely measured and closely corresponds to the theoretical models presented in this book. It narrowly focuses on the degree to which a country has reported aggregate economic data to international organizations and stands apart from the other independent and dependent variables we examine in this book. Indeed, who would think that the provision of national income accounting statistics would lie behind such important phenomena as the emergence and stability of democracy, increased mass unrest and decreased coups under autocracy, and patterns of investment?

An additional reason we focus on the reporting of economic data relates to the dissemination mechanism: international organizations. Credibility lies at the crux of this mechanism. We view international organizations as independent third parties that vet information provided by states, especially from developing countries. A government may release economic data, but international organizations only include the information in their databases if the government has followed the appropriate standards and if the international organization deems the data accurate. Specifically, we obtain our data from the World Bank's World Development Indicators (WDI) data series, which, in turn, takes

data directly from national governments or from other international organizations that obtain their data from national governments.

Now, the quality of data that international organizations have is far from perfect, but these organizations do have standards that often exceed those that governments may use if left to their own devices. We thus rely on international organizations that have specific data standards and guidelines for data collection and calculation.[2] We can then generate an approximate measure of the degree to which the aggregate economic data released by governments are credible.

We stress that our measure represents only an approximation of the availability of credible data. We do not directly evaluate the millions of national accounting figures that governments have historically made available (or not). Nor can we directly assess individual citizens' subjective judgments of the credibility of the aggregate economic data that they observe published (or not) by their governments. We do recognize, however, that when data are reported as missing by international organizations, either the national government released excessively manipulated information or the government failed to release any information at all. Thus missing data approximate a more generally held view – both domestically and internationally – that the government failed to report credible information about the economy.

Why do some states provide credible economic data while others fail to do so? *Capacity* stands as one determinant of this kind of transparency – some states are too poor and lack the technology to collect data. Another important determinant is states' *willingness* to disclose. Some states have the capacity to provide data about their country – to the world and to their own citizens – but they choose not to do so. They lack the political will. What then are the consequences of choosing to disseminate (or not) aggregate economic data?

The provision of credible data permits citizens to better coordinate their political behavior and make more efficient economic decisions. These effects of transparency lead to opposing outcomes under democratic and autocratic forms of government. Under democracy, data dissemination makes elections more effective in removing poorly performing incumbents, reduces the incidence of mass protest and irregular removal of leaders, and stabilizes democratic regimes. By contrast, autocratic governments face a risk from revealing

[2] For an overview of the various purposes of international organizations, see Abbott and Snidal (1998) and Martin and Simmons (1998). On domestic perceptions of international organizations and the ability of these organizations to influence and inform domestic populations, see T. Johnson's (2011, 2014) work on the subject. See also Bierman and Siebenhuner (2009); Cox and Jacobson (1973); Jinnah (2014); Johnson and Urpelainen (2014); Karns and Mingst (1990); Posner (2009); Reinalda and Verbeek (1998); and Tallberg et al. (2013). The view that international organizations serve to provide credible signals to domestic audiences fits with other work we have pursued with other colleagues, including Mansfield, Milner, and Rosendorff (2002); Hollyer and Rosendorff (2011); Vreeland and Dreher (2014); see also Chapman (2011).

economic data, which enable citizens to better coordinate protest: mass uprisings, which can unseat incumbents and upend autocratic regimes, become more likely.

When autocrats provide data about the economic performance of a country, the information can serve as a focal point to help citizens coordinate to address a collective action problem. Citizens may stage mass demonstrations or go on strike, especially when economic performance is weak. Obviously, mass uprisings are problematic for autocrats as these can lead to the downfall of the regime. Consequently, autocrats have incentives to withhold economic data from the public.

Autocrats also face other types of threats beyond mass unrest. Autocratic leaders often risk deposition from inner-circle elites staging coups or engaging in nonviolent political maneuvers that shake up the leadership. Here we offer an ironic twist to the logic of data dissemination under autocracy. Precisely because a more transparent informational environment facilitates mass unrest, data dissemination can render inner-circle elites more supportive of the regime. Members of the elite are less willing to take action against their leader as the regime becomes less stable because everyone in the regime – the dictator and his inner circle – will all fall together if the masses topple the government.

In essence, transparency can empower a bold dictator to use the prospect of mass insurrection as a threat to control members of his own regime. In this part of the story, a cunning strategy motivates transparency: the autocrat increases the ability of the masses to organize by releasing economic data simply to inspire his inner circle to rally around his leadership. So, for autocrats, economic transparency acts as a double-edged sword: Loyalty among elites increases precisely because mass unrest becomes more likely.

Thus, in the ensuing chapters, we make several predictions:

1. Democracies provide more data in general than autocracies.
2. The decision of autocracies to disseminate data depends on trade-offs across the need for investment, the risk of mass uprising, and the risk of coups from inside the regime.
3. When states provide more data, investment increases.
4. The dissemination of economic data enhances stability under democracy.
5. The dissemination of economic data has more nuanced effects on the stability of autocracies – it reduces the likelihood of coups but increases the chances of mass unrest.

Behind all of the research in the book – the theories, predictions, and analyses of data – stands our new approach to measuring transparency. Our index encompasses the reporting of data by national governments to various international organizations on 240 economic variables. Our dataset covers the period of 1980 to 2010 for 125 countries, for a total of 3,875 country-year observations of data dissemination. Because some data may be more difficult for

states to collect than others and the reporting of some data may better reflect a general tendency to disclose, we treat transparency as a latent (unobserved) predictor of a state's tendency to disclose data. We estimate the index using a Bayesian model based on item response theory (IRT), which enables us to estimate which variables are the most difficult to report and which discriminate the most transparent governments from the least (we explain IRT briefly in Section 1.1.3 and in detail in Chapter 3).

Our measure – which we call the HRV index (following the initials of our last names) – is publicly available through our website (http://hrvtransparency.org). Some researchers may wish to use our measure to examine questions beyond those introduced in this book. Other scholars may wish to use the methodology we develop to generate new measures tailored to specific questions of interest. For example, Copelovitch, Gandrud, and Hallerberg (2018) have used our approach to develop a specific measure of financial openness, which relies on the reporting of 14 financial indicators for 50 countries across the period of 1990 to 2011. Our methodology has great flexibility. A researcher need only identify the key variables of interest, record where the data on these variables have been reported and where they have not, and then apply IRT. Both our specific index of transparency and our methodology to generate the index have wide-ranging applications.

The book therefore makes several contributions: an innovative approach to estimate transparency along with an original index, new theories of the determinants and consequences of transparency, and a set of inceptive empirical findings.

The remainder of this introduction foreshadows the chapters to come. The book is organized into three parts: Part I, Facets of Transparency; Part II, Protest and Stability; and Part III, Why Disclose. We begin by exploring facets of transparency with a focus on our original measure of the dissemination of economic data (Part I). Armed with our measure of transparency, we examine its consequences for political stability (Part II). We find beneficial effects of transparency for the political stability of democracies, while the effect on the stability of autocracies depends on the type of threat to the regime. Part III examines why governments disclose data. First, we show that data dissemination has beneficial economic consequences with a focus on investment. We then present the logic of why democracies have stronger incentives to provide data than do autocracies. Having explored the nuanced consequences of transparency for the stability of autocratic regimes, we complete this section by revisiting the political logic of why autocrats would ever disclose data. The book's final chapter offers advice to policymakers and scholars concerning the benefits and costs of transparency across regime types.

After briefly overviewing each of the three parts of the book, this introductory chapter concludes with a discussion of the different audiences we seek to reach with our research, including the subfields of comparative politics, international relations, American politics, and public choice.

1.1 MEASURING DIFFERENT FACETS OF TRANSPARENCY

People often hail the merits of transparency without critically assessing the type of information in question. Broadly defined, transparency may pertain to any aspect of information transmission, and different aspects of information transmission may likely have different causes and consequences. Part I offers a framework for conceptualizing three key facets of transparency (Chapter 2). We also introduce the details of our own index, which focuses on the disclosure of aggregate economic data (Chapter 3). We do not suggest that our measure is always preferable to others. On the contrary, we suggest that the optimal measure of transparency depends on the theoretical context (Chapter 4). So we offer guidance about which measures of transparency are the most relevant to which theoretical mechanisms.

Our measure does offer certain advantages over other measures of transparency because of the objective and rigorous methodology used to generate the index. Note that these advantages are also context-specific (for an in depth discussion, see Hollyer, forthcoming). "Objective" does not mean "better" for all purposes; rather, the objectivity simply derives from the fact that the measure is constructed following rigorous rules, making the dataset independently reproducible. Our measure of transparency is itself transparent and can be reproduced using the raw data from the World Bank and appropriate computer software.[3]

What can scholars study using data dissemination as a measure of transparency? Our broad area of theoretical interest is political economy and we are primarily concerned with transparent information about the economy as it relates to political order (both domestic and international) and the accountability of governments.[4] Different facets of transparency play important roles in holding governments accountable. Citizens care about (1) their government's choice of policies, (2) the impact of those policies on outcomes in their everyday life, and (3) the outcomes themselves. The first item concerns the transparency of the policymaking process. The second item relates to the transparency of causal connections between policies and outcomes. The third constitutes the transparency of the material conditions under which people pursue their daily lives.

Ultimately, citizens may care most about the third facet of transparency: the policy outcomes. Some policy outcomes are easily observed: Am I employed?

[3] Our estimation process involves a stochastic component, but analyses with the data should prove robust to the expected small deviations from exact estimations of the index.

[4] Prominent examples in the literature include models of political responses to economic crises (Alesina and Drazen 1991; Fernandez and Rodrik 1991), the decision to go to war (Fearon 1995), the signing and ratification of international treaties (Hollyer and Rosendorff 2011, 2012; Mansfield, Milner, and Rosendorff 2002), legislative committee assignments (Gilligan and Krehbiel 1987), and the provision of public goods for different ethnic groups in a society (Habyarimana et al. 2009).

Others may be obscured: Are prices at the market impacted by barriers to trade? Moreover, the evaluation of many outcomes depends on the dissemination of information across a broad swath of society: How strong, for example, is the overall performance of the economy? Addressing questions of the last type requires aggregate economic data. So the dissemination of aggregate economic data may represent the key facet of transparency necessary for citizens to hold their governments accountable on the issues that matter most for daily life.

Throughout this book, we focus on the policy-outcome facet of transparency. Aggregate economic data inform individuals about policy outcomes experienced by broad segments of the population. We discuss other facets of transparency in order to distinguish the key dimension of transparency of interest for this book and to show how data disclosure relates to the other aspects of transparency. We also control for other measures of transparency where appropriate in the empirical sections of the book. So, Part I considers three broad categories of measures of transparency: (1) institutional measures, (2) measures of the media market, and (3) the dissemination of data.

1.1.1 Institutional Measures of Transparency

Institutional measures of transparency mainly reflect the openness of the policymaking process. Several studies (e.g., Broz 2002) measure this facet of transparency using the level of democracy (as reflected by the Polity index). Other commonly used institutional measures of transparency reflect the presence of freedom of information laws (FOILs) or the independence of central banks.[5] Information about the policymaking process may be valuable if citizens care about policies themselves – as opposed to the outcomes these policies produce. Or, they might be valuable if the outcomes of a given policy are obviously good/bad for their welfare. Examples might include simple instances of malfeasance: corruption, misappropriation, or inefficiency (see Di Tella and Schargrodsky 2003; Ferraz and Finan 2011).

1.1.2 Measures of the Media Market

A free and vibrant media can have a wide-ranging impact on the spread of information (Arnold 2013). Investigative pieces may relay information on the policy choices of governments to citizens. Media analyses and opinions may help to inform citizens of the mapping between policy choices and policy outcomes. And media reports may convey information on policy outcomes either via anecdotes about individuals directly affected by policy decisions or through the reporting of national data – assuming such data are available.

[5] See Berliner (2014); Islam (2006); Chortareas, Stasavage, and Sterne (2002); Keefer and Stasavage (2003); and Dreher, Sturm and De Haan (2010).

Individual news agencies, however, typically cannot invest the resources necessary to document movements in price indexes, levels of economic growth, levels of poverty, or education rates. The media are unable to collect this sort of information for two reasons. (1) The collection of such information often entails enormous fixed costs. (2) The collection of such information is subject to a public goods problem – once one news outlet collects and publicizes information on aggregate outcomes, other outlets may simply reproduce this information (Rodrik 1995). Facing high fixed costs, as well as the specter of free-riding, the mass media simply tend not to collect these measures. They rely, instead, on governments to collect aggregate economic data.

1.1.3 The Dissemination of Data

Aggregate economic data serve to inform individuals of the welfare of the whole society or some large segment of the population. Measures of this facet of transparency tend to focus on government disclosures because, as argued above, the combination of high fixed costs of collection and externalities in information dissemination tend to make the collection of aggregate data a natural monopoly dominated by the government.

Aggregate economic datasets hardly amount to the public's only source of information on policy outcomes. A free and vibrant media may examine the effects of government decisions as well as the decision-making process itself, while social networks allow individuals to share their individual experiences.

However, aggregate data are unique in their ability to summarize information regarding a large number of individual outcomes. Chapter 2 argues that the dissemination of aggregate data is most likely to be valuable when: (1) the public is imperfectly informed as to the optimal policy choice; (2) policy choices do not perfectly map into welfare implications for individuals; and (3) the policy in question affects a broad swath of the public.

The law of large numbers implies that data offer an increasingly precise signal of the appropriateness of government decisions as the level of aggregation rises. If individuals condition (at least partly) their decision to support the government based on outcomes for society as a whole, they need information on an aggregate level. Aggregate data may therefore play a critical role in mobilizing collective action (we discuss the issue of collective action extensively below).

Yet, recall that the government has near monopoly power in its ability to collect such data. If the government's survival in power depends on the release of data that it may control, how can anyone ever trust the data? Credibility is crucial.

Governments, of course, might fake economic data. Repeated lying by the government results in the public discounting any information from the government about the economy. If the government always reports, for example, that the economy is performing well, eventually no one will believe it. Or, if the government adds a few percentage points to economic growth each

year, the threshold for what constitutes a "good" versus a "bad" outcome just shifts upward over time. Media outlets may still rely on faulty government information for their publications, but citizens learn to disregard incredible information.[6]

We theorize that some governments are more likely to provide credible economic data to the public and that the provision of such data generates consequences for economic performance and political stability. We must therefore differentiate between instances of credible communication of economic data and incredible communication. Rather than consider only the data provided to the public directly by their governments, we consider data provided by national governments to highly regarded international organizations.

Data available in the WDI represent, in essence, a joint decision between the national government to provide the information and the international organization to publish it. Throughout the book, we focus on the government decision. In what follows, however, we consider each part of the joint decision in turn.

Capacity and Willingness: The Government Decision to Disclose Data

A familiar reaction to our proposed index of data dissemination is that it is not a measure of transparency but rather a measure of state capacity. As countries develop economically, the government's tax base increases, enabling a larger and more sophisticated bureaucracy to collect and disseminate more and better quality economic data.

Following the influential study of Fearon and Laitin (2003: 76), we proxy for state capacity by using economic development as measured by gross domestic product (GDP) per capita (measured in terms of purchasing power parity – PPP). We find a positive correlation between our index and economic development and assure readers that all of the qualitative findings discussed in this book hold when we control for this factor.

We emphasize, however, that capacity is not the only determinant of the government decision to disseminate data. Willingness also matters. As evidence, we show in Chapter 4 that while the HRV index trends upward with GDP per capita, at every level of economic development, democracies tend to report more data than autocracies. In fact, while the relationship between development and the HRV index is positive and monotonic for democracies, the relationship is more complicated for autocracies.

The fact that democracies report data at higher levels than do autocracies at every level of economic development suggests that governments held to account by elections have greater *willingness* to disseminate data than governments whose survival does not depend on elections.

Within the estimation of the HRV index itself, we also find evidence of the importance of willingness to disclose. As presented in Part I of this book, the most discriminating factors across countries' levels of data dissemination relate

[6] Regarding the rationality of citizens choosing to discount the lies of government, we recommend the studies of Gehlbach and Sonin (2014) and Shadmehr and Bernhardt (2015).