

Politics and Economics

Shifting the balance towards openness

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There is a widespread consensus that transparency and accountability are essential underpinning of good governance and that this, in turn, is a pre condition for tackling poverty and inequality and achieving the Millennium Development Goals (MDGs). There are also widespread assumptions that transparency and accountability of public administration is necessary for sustainable economic development (for example the work of Amartya Sen in the 1990s that highlighted the development cost of secrecy).

One of the primary obstacles to transparency and accountability is what is often known as an asymmetry of information in that governments and public officials tend to know much more than citizens and hold onto information as a source of power. It is widely assumed that if public officials monopolize information about development programmes, corruption and maladministration will thrive. In the famous phrase “sunshine is the best disinfectant”. Notwithstanding the history secrecy of governments, in recent years there has been a substantial move towards greater openness with over 50 countries adopting access to information laws of some kind. This seems to be tied to the wave of democratization that followed the political events of the end of the 1980s and early 1990s. However, this momentum has now stalled and in many parts of the world democracy, and transparency, appears to be in retreat. The growing power of authoritarian societies such as Russia and China and their apparent determination to promote different approaches to those of open societies (such as the Russian ”sovereign democracy) is a particular challenge.

If progress is to be made we will need a more rigorous analysis of what might be termed the *politics of policy* in this field. Policy making in the real world is rarely shaped by rational, objective considerations. Any form of constitution making is most likely to be shaped by the “tectonic plates of power”. These tectonic plates will include structural factors such as the level of socio-economic development, the strength and weakness of particular institutions, the type of political system (parliamentary or presidential) and its stability, the perceived self interest of political actors, specific national and regional histories and cultures, the wider international dimension and contingent factors of both personalities and events.

Identifying common factors in such circumstances is not easy. The most productive approach may be to consider how to incentivise the variety of social actors to support transparency and accountability. It is obvious that in considering the interests of government, legislature, the media, business interests and civil society – to take some obvious constituencies – different arguments will have purchase at different times. A

reforming government in an unstable political culture may be comfortable with transparency framed as an anti-corruption, reform measure; an established government in a stable political culture is unlikely to be so receptive to that argument. Business will want a stable macro-economic framework and may respond to arguments about transparency that ensure a level playing field in a competitive market. The media may see transparency as an asset to its ability to gather news, or it may see a general increase in transparency as threatening its privileged back door channels to government. In some cases it may be necessary to frame the issue in different ways for different audiences, requiring a sophisticated campaign approach that can, in turn, risk accusations of duplicity.

In this workshop we will explore these political economy questions focusing on the necessary political contexts for ATI laws to be passed and a transparency regime to thrive in the current circumstances. The kinds of questions we might consider are:

- 1) Is there agreement on the proposition that transparency and openness are essential for good governance and development? Are there conceptual challenges that need to be tackled?
- 2) Who and what are the obstacles/impediments to passage and implementation of ATI laws and what are potential solutions? (i.e. national security argument, prioritization, privacy, media concerns, small or divided societies).
- 3) How should arguments for ATI be couched – in broad human rights terms or more instrumentally as a means of achieving more effective public administration?
- 4) Many ATI campaigns are couched in terms of tackling corruption and holding government to account – are these the best arguments in stable countries with entrenched political elites?
- 5) How can we incentivise the passing of ATI laws and the implementation of a right to information regime, and are there practical examples of these succeeding in practice? What specifically can be done to diminish the disincentives? Who are the allies in such an endeavor? Are there specific roles for the business community, for the media and for civil society organisations?
- 6) Is there a particular economic burden on developing nations in implementing an ATI regime, and if so, can this burden be minimized while retaining the essentials of an ATI system?
- 7) What are economic incentives for transparency and how can we shift the political and economic balance so that benefits of transparency outweigh opacity?

- 8) What is the role of external agencies in these processes, including external donors, internal agencies such as the World Bank and foundations, and international NGOs such as the Carter Center.
- 9) Do we have sufficient independent data to arrive at definitive conclusions? Is more research needed – if so what kind?

At the conclusion of our workshop we will present our findings
We will have a template of three power point slides with which to present the group's summary. The slides will help us organize our discussion and will be titled:

Issue Statement

Under this title we will try and define the issues of concern and set the boundaries of the discussion

Considerations

This will consist of the questions we set ourselves to answer, samples of which are included above

Action Points/Next Steps

This will set out the group's recommendations on the ways forward

These slides will be presented to President Carter and the rest of the participants the following morning at the plenary session along with the recommendations of the other four groups. The action points/next steps will be used to compile the blueprint for moving forward and be part of the conference declaration or summary statement. It is important that we aim to be as practical and focused as possible. We need to be clear who our recommendations are directed to.

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Group One

Politics and Economy: shifting the balance toward openness

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The Political Economy of Transparency: What makes disclosure policies effective?

by

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The Political Economy of Transparency: What Makes Disclosure Policies Effective?

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This is the twelfth paper in a series dedicated to understanding innovation in the public sector. The Roy and Lila Ash Institute for Democratic Governance and Innovation fosters excellence in government around the world in order to generate and strengthen democracy. Through its research, publications, curriculum support, global network, and awards program, the Ash Institute explores critical issues in democratic practice and effective governance. By engaging a broad, global community in which knowledge is shared, by generating and supporting research and curriculum materials, and by highlighting exemplary government programs, the Institute serves as a catalyst for successfully addressing many of the world's most pressing concerns and, in turn, improving the lives of its citizens.

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I. Introduction

Transparency systems have emerged in recent years as a mainstream regulatory tool, an important development in social policy. Transparency systems, as we define them, are government mandates that require corporations or other organizations to provide the public with factual information about their products and practices. Disclosed information is structured for comparability and updated at regular intervals. Transparency systems always have regulatory purposes and such purposes vary widely. Systems have been designed to protect investors, improve public health and safety, reduce pollution, minimize corruption, and improve public services.

In the United States, nutritional labeling, public school report cards, restaurant grading systems, campaign finance disclosure, toxic pollution reporting, auto safety and fuel economy ratings, and corporate financial reporting are among scores of transparency systems created by federal and state legislators. Internationally, infectious disease reporting, food and tobacco labeling, and multi-national financial reporting are among the disclosure systems designed to further nations' shared aims.

A single idea unites these otherwise disparate systems. It is that public intervention to require the disclosure of factual information by companies, government agencies, and other organizations can create economic and political incentives that advance specific policy objectives. The rationale for government intervention starts with the premise that market and political processes are characterized by information asymmetries that stand in the way of furthering health, safety, investment choices, quality services or other public priorities. Such imbalances are inevitable because manufacturers, service providers, and government agencies always have exclusive access to some information about their products and practices and always have compelling reasons to keep much of it confidential. In addition, many kinds of information that are not secret in this way are nevertheless largely inaccessible.

Of course, journalists, representatives of consumer groups, and competitors often have countervailing interests in ferreting out some of this missing information and making it widely available in news stories, rating systems, and advertising. But such efforts cannot fully correct asymmetries because private parties cannot compel disclosure. As a result, shoppers, employees, investors, and community residents may make choices that do not further their economic welfare, health or safety. Without enough information, they inadvertently invest in companies with hidden liabilities, buy cars with high rollover rates, visit hospitals where medical errors occur frequently, or eat foods that contribute to heart disease or cancer.

When individuals cannot themselves restore information imbalances and when public disclosure can further a compelling policy objective, government often intervenes. Government-mandated disclosure plays a unique role in supplementing and correcting the private provision of socially relevant information. First, only government can *compel disclosure* by restaurants, factories, or schools. Second, only government can *require comparable metrics, format, and timing*. Third, only government can *create systems backed*

by deliberative democratic processes. Legislative, regulatory, and judicial processes provide government- mandated transparency systems with legitimacy and accountability.

Los Angeles County's restaurant grading system, adopted in 1997, provides a simple example of how legislated transparency can improve public health. Restaurants are required to display in their windows government grades of A, B, or C. The grades reflect restaurants' scores on an inspector's 100-point checklist that includes points off for rodent droppings, twice-served food, lapses in employee hand washing, and so on. Policy makers hope that customers will change their dining choices by selecting restaurants with higher grades, creating market incentives for those with low grades to improve their hygiene.

Early research suggests that this grading system has been highly effective. Researchers have found significant revenue increases for restaurants with high grades and revenue decreases for C-graded restaurants. They also have found measurable increases in restaurant hygiene in Los Angeles County and a consequent significant drop in hospitalizations due to food-related illnesses. Overall, more informed choices by consumers appear to have improved hygiene practices, rewarded restaurants with good grades, and generated economic incentives that stimulated a new kind of competition among restaurants (Jin and Leslie, 2003). This transparency system illustrates how new information that fits easily into existing customer routines can alter their choices. Grades are available at the time and place of decision, provide a simple format for comparability, and provide information customers want. Already attuned to protecting their establishments' reputations and sensitive to even small shifts in business, restaurant managers can observe and react to customer responses.

Not all transparency systems work so well, however. In 1999, the U.S. Institute of Medicine reported the astonishing fact that more Americans died from medical errors in hospitals than from automobile accidents, between 44,000 and 98,000 people each year. Some hospitals were 10 times safer than others. The Institute strongly recommended that serious errors be systematically disclosed to the public in order to create incentives for hospitals to improve patient safety and compete to reduce errors. Nonetheless, state-mandated disclosure systems aimed at disclosing medical errors and improving patient safety have so far proven ineffective for at least three reasons. First, metrics have proven problematic. Distinguishing between adverse events and medical errors can require extensive investigation and expert judgment. Second, as a practical matter, information has remained inaccessible and patient choices have remained limited. Key records such as disciplinary actions against doctors have sometimes remained scattered in county courthouses. Even when information is available in hospital report cards, surveys suggest that most patients don't pay attention to it. They continue to rely instead on advice from their doctors and opinions of family and friends in choosing hospitals. While disclosure of medical errors may be relevant and timely, it is not yet compatible with the way patients are accustomed to making choices that may be very limited in practice. The fact that hospital stays are often unplanned, unique events where patients are constrained by location and insurance requirements

makes it harder to make full use of information about errors. Finally, accurate disclosure of mistakes has proven extremely difficult to enforce. Medical errors usually occur when few people are present. Patients, nurses, and even doctors may be unaware of them. Thus, at a time when improving health care quality is perceived as a major policy goal, transparency systems have failed to provide a meaningful way of furthering that goal.

More public information, then, is not necessarily better. Transparency systems, inevitably products of political compromise, can be constructed in ways that fail to advance policy goals. They can cause disclosers to over-emphasize some public goals at the expense of other, more important, ones. They can confuse information users so that their choices become counter-productive. They can be captured by narrow interests or grow outdated as markets and priorities change. Or they can simply waste resources because information that takes time and resources to produce is then simply ignored. Our analysis suggests that transparency systems offer great promise as innovative social policy but create difficult challenges for government, business, and the public.

In earlier work, we have analyzed the design and dynamics of transparency systems, based on analysis of 12 mature, prominent government-mandated systems in the United States. We have concluded that transparency systems with varied goals share common architectural characteristics, dynamics, and obstacles. We have suggested structural characteristics that support workable policies (Graham, 2001). We have concluded that transparency systems, always imperfect political compromises, must improve over time in scope, accuracy, and use in order to be sustainable. We have suggested that they can be improved by strengthening user intermediaries, encouraging effective enforcement, taking advantage of regulatory synergies, and complementing market interactions (Fung, Graham, Weil, 2002).

This paper, the third in a trilogy that analyzes transparency systems as innovative social policy, explores the most important and difficult question concerning such policies: Do they work? By that we mean: Can they effectively advance their regulatory objectives? We develop our account of effectiveness by examining the design and impacts of a subset of eight diverse transparency systems that are relatively mature, are backed by strong public mandates, create incentives for change through a variety of market and collective-action mechanisms, have received substantial scholarly scrutiny, and contribute to a robust cross-cutting analysis of transparency effectiveness. For this paper, we offer analysis of systems created by Congress or state legislatures in the United States. Whether our framework also proves helpful in analyzing the effectiveness of international transparency is a subject of current work.

Our account of transparency system effectiveness develops three central ideas. First, our analysis finds important differences between policy effects and policy effectiveness, and recognizes various levels of effectiveness. Transparency systems may have effects without being effective. They have *effects* when they alter choices of information users and disclosers in observable ways. They are *effective*, however, only when they alter choices in ways that significantly further policy objectives. Like other regulatory

mechanisms, transparency systems may also be effective on balance while producing some unintended effects. For example, toxic pollution disclosure has led manufacturers to reduce their overall releases of harmful chemicals even though some may have substituted unlisted but perhaps more toxic chemicals and others have made only "paper" changes in estimating techniques or definitions. Likewise, financial disclosure has contributed to efficient investment choices and improved corporate governance even though some companies have created "off-balance-sheet" entities to inflate reported profits. Nutritional labeling has encouraged food companies to create brand extensions of healthy products but sometimes labels have also led dieters to buy "low fat" but high calorie products. Our framework also recognizes effectiveness as a *continuum*. Transparency systems are *highly effective* when they change the choices of information users and disclosers in ways that significantly advance policy objectives. Such systems are *moderately effective* when they alter the choices in less significant ways that nevertheless advance such objectives.

Second, our analysis develops the idea of a transparency system "action cycle." We describe how new information can result in behavior changes by users that in turn lead to behavior changes by disclosers. Transparency systems introduce new information into existing complex patterns of decision-making by buyers and sellers, community residents and institutions, voters and candidates, and other participants in market or collective action processes. For purposes of understanding the impact of new information, we can characterize such decision-making as a predictable cycle in which information users act to advance their diverse goals based upon limited facts. Their actions create incentives for information disclosers to improve their products or services. And such improvements in turn reduce risks to the public or result in fairer or more efficient services. Transparency systems are effective only when they introduce new information in ways that influence this action cycle to produce behavioral changes in line with public policy expectations. Thus, the seemingly simple requirement of information disclosure requires an exceedingly complex chain of events to produce effective policy. Transparency systems compel target organizations to produce new information; users must perceive, consider, and act on such information; and target organizations must perceive, consider, and act on user responses in ways that further policy objectives.

Third, our analysis develops the idea that transparency policies are generally effective only when the information they produce becomes *embedded* in everyday decision-making routines of users and disclosers. No matter how accurate or relevant new information is, it cannot provide a foundation for a successful transparency system unless it is made available at a time, place, and in a format that fit in with the way consumers, investors, employees, and home buyers make choices as information users and the way corporations, government agencies, and other organizations make decisions as information disclosers. In cost-benefit terms, information becomes embedded when parties perceive that the benefits of its collection and use clearly outweigh the costs. *Thus, when transparency systems provide highly relevant and accessible information that users incorporate into the considerations that determine their actions, we say that information becomes embedded in users' decision-making processes. When such systems produce user responses that disclosers incorporate into management decisions, we say that those responses become*

embedded in organizations' decision-making processes. Assuming that information is accurate, this double-sided embeddedness becomes the most important condition for transparency systems' effectiveness. This finding suggests the importance of asking at the outset what information consumers or business managers want and how these users and disclosers make and alter the choices that public officials hope to influence. Since the way that individuals and organizations act varies widely, this finding further suggests that transparency systems need to be tailored to take account of the culture, education, and priorities of intended audiences.

II. Information and Regulation

Perhaps surprisingly, in the past, federal and state governments have rarely placed priority on providing ordinary citizens with systems of factual information to help them minimize risks and choose high quality public services. Traditionally, government officials have collected vast amounts of factual information about risks and performance from manufacturers, government agencies, and other organizations to help frame or enforce minimum standards or financial incentives to reduce risks or improve service quality (Breyer, 1993). But such information has been intended for expert use. In principle, there has been a right of public access to much of this information. In practice, however, most information has made a one-way trip to Washington or state capitals where most of it has remained scattered in government files. Ordinary citizens have been passive beneficiaries of actions by politicians and experts tasked to protect their interests by drawing on this information.

Nonetheless, the idea of employing public communication as a regulatory tool has deep roots in U.S. policy. A generation ago, Congress began to mandate product warnings such as "keep out of the reach of children" and "fasten your seat belt." These mandates rested on a foundation of common law duties of manufacturers to warn product users about foreseeable harm. Warnings were designed to change choices. But they did not provide transparency. Like rules and financial incentives, they were based on experts' analysis of information gathered from private sector organizations and public agencies. They did not provide ordinary citizens with facts to make their own informed choices (Zeckhauser and Marks 1996).

Even earlier, however, Congress did on rare occasions create regulatory transparency systems to supplement the government's minimum standards, often in response to public scares and in circumstances when conventional regulation did not seem sufficient. After muckraking journalists described filthy conditions in large meatpacking plants and alleged that adulterated foods were causing deaths and injuries, Congress required accurate labeling of ingredients in the Food and Drug Act of 1906. After millions of Americans lost their savings in the stock market crash of 1929, the Securities Act of 1933 and the Securities and Exchange Act of 1934 required companies that sold stock to the public to reveal detailed information about their officers, earnings, and liabilities in order to reduce risks to investors. Both food labeling and corporate financial reporting have been expanded significantly in recent years as transparency systems have become mainstream policy tools.

Then, in the 1960s, the emerging idea that the public had a “right to know” whatever information had accumulated in government files helped lay the foundation for the wider use of transparency systems.¹ Union demands for information about workplace hazards and citizen groups’ demands for information about toxic risks inspired local “right to know” laws (Baram, 1984; Ashford and Caldart, 1985; Hadden, 1989). Local actions were followed in 1966 by the federal Freedom of Information Act that established the public’s right of access to any information in the hands of executive branch agencies unless disclosure threatened national security, personal privacy, trade secrets, or other specified interests. That law was strengthened in the 1970s and 1990s, and now requires the electronic disclosure of public records.

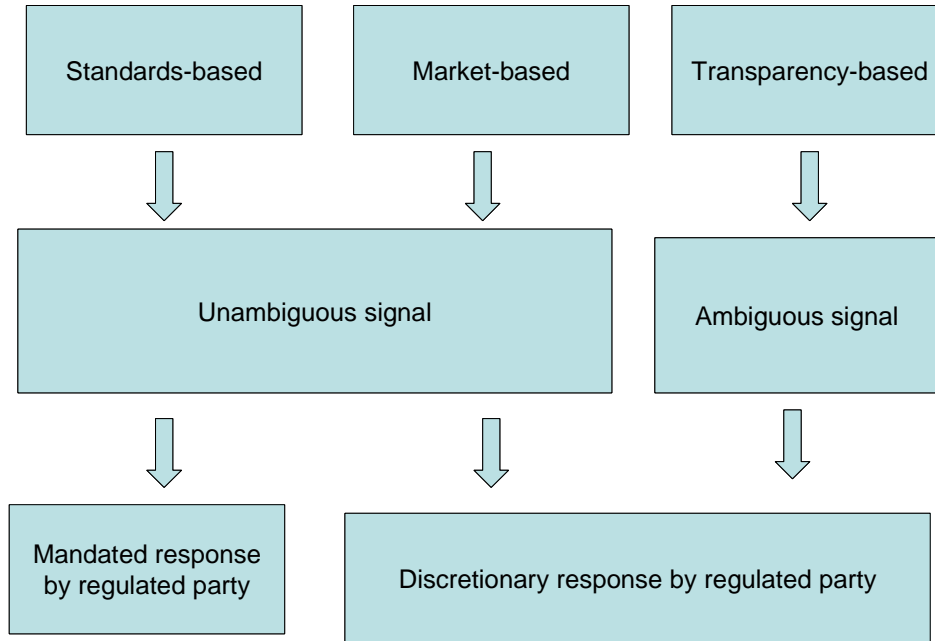
Only in recent years, however, have transparency systems emerged as an important third wave of modern regulatory innovation. In the 1960s and 1970s, a time of optimism about the capacity of government to solve public problems, regulatory innovation emphasized rules and penalties. In the 1980s, a time of unusual optimism about the capacity of market mechanisms to solve public problems, regulatory innovation embraced taxes, subsidies, and trading systems. From the mid-1980s to the present, a time of optimism about advances in communication and information technology, regulatory innovation has emphasized transparency systems.

Transparency systems’ paths to impact on target organizations differ fundamentally from those of other regulatory strategies. Standards-based regulatory systems send unambiguous signals to regulated parties concerning whether, when, and sometimes how and how much to change their practices. Market-based systems using taxes, subsidies, or trading regimes provide greater latitude in the *responses* chosen by target organizations but also send unambiguous signals. They are directed toward specific activities such as pollution emission levels and feature a specific, usually quantitative expression of a desired outcome. Policy makers set tax formulas, subsidy levels, and quantities of traded units, for example (Ellerman et al. 2000). Transparency systems, by contrast, do not specify whether, when, or how organizations should change practices. Instead, they rely on responses to new information by users and disclosers to create market or political incentives for change. These responses are by nature somewhat unpredictable and ambiguous. While users’ actions themselves further policy goals to some degree, most transparency systems feature more ambitious goals. They explicitly aim to change organizations’ practices – encouraging development of healthier foods or safer cars, for example.

¹ The recognition of the public’s “right-to-know” is but one of the facets of the broader “rights revolution” described by Sunstein and others as the period between the New Deal and the 1980s, when Congress created “legal entitlements to freedom from risks in the workplace and in consumer products, from poverty, from long hours and low wages, from fraud and deception, from domination by employers, from one sided or purely commercial broadcasting, and from dirty air, dirty water, and toxic substances” (Sunstein, 1990, pp. 12-13).

These differences between standard-based, market-based, and transparency-based regulatory systems are captured in Figure 1 below:

Figure 1: Signals and Responses under Three Types of Regulation



III. Transparency Effects, Effectiveness, and the Action Cycle

Our analytical framework begins by distinguishing transparency systems that have *effects* from those that are *effective*. When systems alter the behavior of individuals and organizations in observable ways, we say that they have effects, recognizing that effects are often unintended by and may be antithetical to the aims of policy makers. When systems alter the behavior of individuals and organizations in ways that significantly advance policy objectives, we say they are effective. Our framework, then, seeks to explain why some transparency regulations (i) lack effects while others (ii) have *effects* yet fail to advance policy objectives, while still others (iii) are *effective*.

To illustrate these differences, consider the case of nutritional labeling, mandated by Congress in 1990 to reduce risks of heart disease, cancer, and other chronic illnesses. If shoppers chose cookies based only on price and taste, additional information provided by nutritional labeling lacked effect. If shoppers used nutritional labels to buy cookies that were low in calories but high in saturated fats, nutritional labeling had effects but would not be effective since lowering risks of heart disease, cancer, and other chronic diseases depends heavily on reducing consumption of saturated fats. On the other hand,

if enough shoppers used newly required labels to choose cookies that were low in saturated fat, labeling might well become effective in reducing risks of disease.

Our central claim is that the best way to understand why some transparency policies work and others do not is to assess whether and how the information produced by those policies becomes integrated into decision-making routines and consequent actions of information users and disclosers. Ours is an inductive, backward-mapped approach that begins not with the perspective of policy makers but with the perspective of information users and disclosers (Elmore, 1979). These participants in markets and political processes have diverse interests, resources, and capabilities. However, they use their resources and capabilities to advance their goals under a variety of constraints. Some constraints reflect individuals' or organizations' limited capacity to process information, including limitations of risk comprehension and language proficiency. Others reflect limitations created by external factors that limit choice. Because individuals and organizations have many decisions to make and little time in which to make them, they often establish routines that focus their attention on those sources of information that have proven most useful in the past. For example, such information users might rely on cognitive short-cuts such as brands, advertising, or advice from trusted people to make choices about products and services (Gigerenzer et al., 1999; Gigerenzer and Selten, editors, 2001; Hutchins, 1995; Klein, 1998). Information disclosers, in turn, might rely on surveys, sales data, or managers' perceptions to ascertain preferences of customers, employees, or community residents. From this starting point, we assess the effects of government-mandated information by the extent to which both users and disclosers find new information useful in the pursuit of their own ends and so incorporate it into their decision-making routines.

Our perspective challenges the commonly-held notion that more public information is always better. Just as John Stuart Mill and Justice Oliver Wendell Holmes argued that exchange of information would create a beneficial marketplace of ideas, contemporary proponents of transparency contend that provision of information will generate many kinds of benefits.² Their central intuition is that placing information in the public domain itself spurs its socially constructive use.

Our analysis of cases suggests, however, that simply placing information in the public domain does not mean that it will be used, or used wisely. In practice, information cannot be separated from its social context. Individuals and organizations simply ignore information that is costly to acquire or that lacks salience for decisions. They often inadvertently use information in ways that fail to advance their own aims. (Kahneman, Slovic, and Tversky, editors, 1982; Kahneman and Tversky, editors, 2000). The process of providing to the public usable information that reduces risks and

² "[...] the ultimate good desired is better reached by free trade in ideas, [...] the best test of truth is the power of the thought to get itself accepted in the competition of the market" Justice Holmes; *Abrams v. United States*; In dissent; 250 U.S. 616; 630; 1919. See also Mill, 1989.

improves services is, therefore, anything but automatic. Whether and how new information is used to further public objectives depends upon whether and how it is incorporated into complex chains of comprehension, action, and response.

In transparency systems, those chains of action and response have two primary actors: those who potentially use new information produced by transparency policies to improve their choices; and those who are compelled by public policies to provide that information and whose behavior policy makers hope to change. These information *users* and *disclosers* are typically connected in a general action cycle that has six main parts:

Figure 2: Transparency Action Cycle

(1) transparency system \Rightarrow (2) new information \Rightarrow (3) user's perception/ calculation \Rightarrow (4) user's action \Rightarrow (5) discloser's perception/calculation \Rightarrow (6) discloser's response.

(1) A transparency system (2) compels corporations, government agencies, or other organizations to provide information about their practices or products to the public at large. (3) If this information is useful to some consumers, investors, employees, community residents, or other individuals or groups they may incorporate it into their ordinary decision-making processes (4) in ways that alter their actions. The original disclosers of information, in turn, may recognize (5) in the changed choices of information users opportunities to advance their interests (6) to which they may respond.

This action cycle explains the effects and effectiveness of transparency policies across a wide range of policy domains. *A transparency system has effects when the information that it produces enters the calculus of users and they consequently change their actions and when information disclosers notice and respond to user actions. It is effective when discloser responses significantly advance policy aims.*³

This description suggests multiple points at which information can fail to spur action and at which action can fail to spur reaction or can provoke perverse responses. We discuss several of these characteristic sources of failure in section VI below. First, however, we consider what is required for this action cycle to generate effective outcomes.⁴

³ Zeckhauser and Marks (1996, p. 33) refer to this as the consumer and manufacturer effect: "Consumers increase their demand for products possessing the newly posted characteristic and sellers increase their production of such products..."

⁴ It is important to note that transparency policies must be sustainable in order to be effective. In earlier work, we have suggested that transparency policies usually start as relatively weak political compromises and must improve over time in scope, accuracy, and use in order to avoid becoming useless or counter-productive. They must adapt and grow stronger as political priorities, market characteristics, and scientific knowledge

IV. Information Embeddedness and User Decisions

The fundamental feature of transparency systems is that they release information into the public domain by compelling corporations or other organizations to disclose information about their activities that they would not otherwise provide. The action cycle described in Figure 2 places information users as first movers in the sequence of actions and reactions.⁵ Users of transparency systems have diverse interests. They may include consumers, voters, employees, suburbanites, inner city residents, competitors, organizations representing businesses or consumer interests, legislators, government agencies, and regulators themselves. They may be casually or intensely interested in new information. Their goals may or may not coincide with those of policy makers. The next analytic step is to explain what factors influence whether and how users incorporate such information into their actions.

Whether and how users respond to new information depends on how easily it fits into their accustomed ways of making choices. Cognitive psychologists and economists have provided insights into the bounded rationality of choice (e.g. Simon, 1982, 1997). They suggest that users of information act rationally to advance their various, usually self-interested, ends. However, because they have limited time and cognitive energy, they do not seek out all of the information necessary to make optimal decisions. Instead, they seek out information to make decisions that are good enough, using time-tested rules of thumb.⁶ Only information that penetrates these sometimes severe economies of decision-making affects users' calculations and actions.

Transparency systems can alter decisions only when they take into account these demanding constraints. Such systems must provide pertinent information that enables users to substantially improve their decisions without imposing significant additional costs. For transparency systems to be effective, we suggest that it is necessary *but not sufficient* that information become embedded in existing decision-making processes. Conflicting preferences, cognitive challenges, and other factors may still keep users from taking action based on new information that furthers policy objectives. We discuss those obstacles in the next section.

We have found three factors that influence the likelihood that information will become embedded in users' decision-making: the

change and as interest groups invent new ways to game the disclosure system. Drawing on our cases, we have analyzed obstacles to sustainability as well as factors that promote sustainable policies. Only a subset of policies improves over time along those core dimensions and develops information that has utility to potential users. Thus, sustainability is a necessary pre-condition to effectiveness. In this paper, we take sustainability for granted and focus instead on effectiveness (Fung, Graham, and Weil 2002).

⁵ Note that this contrasts with our model of sustainability where the discloser initiates the sequence of events that lead information to either improve or stagnate under a transparency policy (Fung, Graham, and Weil, 2002).

⁶ This is often referred to as “satisficing” in the literature by Simon 1982, 1997).

information's perceived value in achieving users' goals; its compatibility with decision-making routines; and its comprehensibility.

First, information must have perceived *value* to users in significantly advancing their goals. Many transparency policies provide facts that can substantially reduce health and safety risks or otherwise improve important choices. Nutritional labeling, automobile rollover ratings, and restaurant hygiene rankings, for example, enable consumers to better act on their existing preferences for healthy food, safe cars, and clean restaurants. However, if consumers have few real choices or do not believe there is anything more they need to know, new information is likely to be ignored. Requirements that employers clearly label hazardous substances in their workplaces have had little impact in part because workers have very constrained choices about where to work (exit) and /or a limited ability to change workplace conditions (voice).⁷

Second, information needs to be *compatible* with users' decision-making routines. Compatibility ordinarily includes three elements: format, timeliness, and location. Hurried shoppers, who will probably only glance at food labels, need a format that allows them to note calories or fat content in seconds. Home buyers, who may not know much about toxic pollution, need information when and where they are pondering a purchase. Sometimes, designers of transparency systems use grades or other rating systems to simplify presentation of complex facts. In principle, restaurant hygiene grades and auto rollover ratings provide valuable information at low cost. They fold data and expert interpretation into simple normative signals. Users who want to question those signals can delve beneath the rating for more information. (Rating systems that lack access to underlying facts would not constitute transparency systems as we define them.) It is worth noting, however, that rating systems often involve two sets of trade-offs: they choose simple presentation over accurate communication of complex facts; and they provide normative judgments by experts instead of users. Much depends on whether the character of needed information is amenable to ratings, whether there is a broad consensus about normative issues, and whether rating organizations are widely trusted.

Users represented by agents present a special case. Transparency systems must present information to agents in a way that fits in with *their* routines. Thus, travel agents acting for clients are more likely to pay attention to government-required airline safety and on-time data if it is prominently displayed on popular web sites. Community groups acting for neighborhood residents are more likely to note bank lending patterns if such information is posted in banks, mailed to such groups, and presented in formats that provide quick and easy reading and measures of comparability. Likewise, parents acting

⁷ User preferences are often refined over time given repeated and cumulative decisions. However, sometimes intensive education, training, or widely publicized crises have an unusual influence on users' preferences, and an accompanying transparency system can help users act on those modified preferences.

for their children are more likely to consider new information about school performance if it is sent home with re-enrollment forms.⁸

Compatibility in the timeliness of information must be situation-specific. When choice occurs in advance of action, information needs to be available when commitments are made, as when home purchase contracts precede possession and employment decisions precede start dates. When choice and action coincide, however, information at time and place is crucial. Grades in restaurant windows and fuel economy ratings on new car stickers provide examples of such compatibility. Often, however, information is not made available at compatible times and places. School report cards and information on toxic releases are not available in real estate offices. Campaign finance disclosures generally are not available in real time; and hospital safety ratings are not available in doctors' offices.

Even if information is valuable and compatible with routines, it is unlikely to become embedded in users' everyday choices unless it is also *comprehensible* to them. Comprehensibility is a product of the congruence of the character of new information with the ability of users to understand it. Limitations in vocabulary or math skills, for example, can reduce the likelihood that information will become embedded in choices. Nutritional information is valuable to some shoppers and conveniently provided at point of purchase. But its chances of becoming embedded in shopping routines is limited by the fact that most shoppers in the United States do not comprehend what is meant by "protein," "carbohydrate," or "calorie."

One reason comprehension problems are of concern is that they may lead to unintended discriminatory effects. Since ability to understand and use risk information varies with such factors as age and educational background, transparency systems may benefit some groups in the population more than others.⁹ For example, research suggests that the old, the young, new immigrants, and individuals with relatively low levels of education are less able to understand and use nutritional labels to reduce risks of disease than those who are better educated and more proficient in English. Even if the median user does not face cognitive limitations, the distributional impacts of transparency systems may be significant.

⁸ Additional problems arise when the goals of individual users and their collective agents are not congruent. For example, agents may have incentives to exaggerate information in order to pursue their aims (e.g. local environmental groups may exaggerate the threat posed by toxic releases in order to expand membership in their organization) even though the distortions lead users to take less than optimal actions (e.g. move from homes because of misperceptions of the toxic risks they face). We discuss this problem in Section VII.

⁹ Research by Viscusi, for example, found that although young people tend to have a higher risk perception of lung cancer associated with smoking, their smoking behavior does not differ from that of the overall population (Viscusi, 1991). Studies suggest that workers' ability to understand hazardous chemicals' information for self-protection improves with education (Kolp et al., 1993; and OSHA, 1991). Research on the impact of food labeling found that after the introduction of mandatory disclosure, sales of salad dressings with high fat content declined more in supermarkets in high-income areas than in others. (Mathios, 2000).

Simple formats and trusted intermediaries can influence whether new information is comprehensible. If policy makers combine complex auto road-test results and probabilities into simple 5-star rollover rankings, such results may be more accessible to buyers. If policy makers disclose information in technical formats, business or government agency representatives, journalists, and consumer groups may simplify them. Environmental groups have combined disclosed data concerning toxic pollution to rank factories' performance and make it electronically searchable by zip code. Research groups have re-organized complex campaign finance disclosure data and provided information in user-friendly websites. *Consumer Reports* and other publications have ranked product safety and performance. The American Heart Association authorizes food companies to place their seal of approval on heart-healthy soups and cereals. Some large employers analyze hospital safety data and provide rankings of hospitals and physicians. Of course, when third party rankings are controversial or self-interested, consumer searches for reliable information may become more difficult, not easier.

Overall, the *cost* of acquiring and using new information must be sufficiently low to justify users' efforts in relation to expected benefits. To state it another way, users may be more willing to invest time and effort in integrating new information into their choices when they perceive substantial and immediate gain. Car buyers who value safety may ferret out safety rankings even though they are not available in auto showrooms. Home buyers who value school quality may be willing to invest time in searching newspapers, magazines, or web sites for rankings and in determining which rankings they should trust. Investors making important decisions about their retirement savings may be willing to seek information about the financial risks of publicly traded companies even if that means paying experts or wading through technical data. In general, though, our analysis suggests that if users must pay a substantial cost in terms of either time or material resources to acquire information generated by transparency systems, they are unlikely to embed that information into their everyday choices (Weil, 2002).

V. Information Embeddedness and Discloser Decisions

As noted earlier, when information produced by transparency systems causes users to introduce new responses into their decision calculus and those responses in turn change disclosers' decision calculus, we say that new information has become *embedded in user and discloser decision-making processes*. Highly effective transparency policies, then, are doubly embedded. Though the organizational context of disclosers' decisions differs from the individual context of many users, disclosers' decisions can be understood using analytic concepts that parallel our account of user embeddedness. Disclosers are more likely to incorporate user responses into their decisions if those responses have *value* in relation to disclosers' goals, are *compatible* with the way they make decisions, and prove *comprehensible*.

First, to become embedded in disclosers' decisions, users' changed choices must be perceived to have substantial *value* in relation to disclosers'

core organizational goals. For private sector entities, core goals often include improving profitability, market-share, and reputation. For public agencies, goals often include gaining constituency support, legitimacy, and trust. For public companies goals might include reducing toxic pollution to maintain their reputations but not in response to community residents' decisions to move elsewhere, which are unlikely to affect profitability. Likewise, elementary schools with poor report cards might make improvements in response to drops in enrollment but not in response to students' failures to get jobs after high school, which are unlikely to affect community support or trust.

Second, user responses must be *compatible* with the way in which managers receive, process, and act on new information in order to become embedded in disclosers' decisions. Disclosers can make changes only if they can discern user signals from the information noise that surrounds them and have the capacity to respond. Compatibility failures may reflect mismatches in process or mismatches in timing and resources. Candidates may have no way of discerning voter dissatisfaction with their disclosed sources of financing when no feedback process exists. Hospitals may have no way to discern the character and degree of patients' concerns about medical errors when no error-tracking process or patient-response mechanism exists. Auto manufacturers may be unable to respond quickly to drops in sales of cars with high rollover ratings because their design cycle is three to four years, creating a timing mismatch. Small food manufacturers may be unable to respond quickly to shoppers' interest in healthier products and cash-strapped schools may lack the capacity to respond quickly to parent demands for smaller classes or extra-curricular activities due to lack of resources.

In one particularly interesting variation on the theme of compatibility, we note that disclosers frequently anticipate rather than respond to user actions. Manufacturers promised to make drastic reductions in toxic pollution nearly a year before their toxic releases were first disclosed to the public. Food companies began introducing new lines of healthy products well before nutritional labels were required. Public companies tightened corporate governance and improved disclosures before legislation that responded to the Enron/WorldCom scandals took effect in 2003 and 2004. Likewise, government officials have taken anticipatory action to improve schools, drinking water quality, or other services in anticipation of the public's response to new transparency systems. These anticipatory reactions suggest that managers concerned with protecting market share or reputation often do so by attempting to predict the behavior of their customers, employees, or investors.

Third, user responses must be *comprehensible* to disclosers in order to become embedded in disclosers' decisions. Even if user responses have value and are compatible with discloser decision processes, they may be misunderstood. Chemical companies may not be able to discern that negative publicity about toxic releases means that communities are concerned mainly about carcinogens. Food manufacturers may believe that declining sales of their high-sugar cereals mean that a competitor's advertising is more effective than theirs whereas shoppers want healthier choices. Studies have shown that many retailers conduct relatively rudimentary analysis of point-of-sale data (Fisher et al., 2000).

Overall, the cost to disclosers of integrating information on user responses into management decisions must be sufficiently low to justify their efforts in relation to expected benefits, defined in their own terms. Disclosers may be more willing to invest time and effort on marketing research when they perceive clear opportunities to beat the competition or avoid reputational damage. Disclosers may even take action to anticipate user responses in order to protect their reputation or competitive position.¹⁰ Occasionally, disclosers may even change the way they make decisions. In general, however, transparency systems themselves rarely change disclosers' routines, just as they rarely change users' routines. To become embedded in managers' decisions, users' responses must be valuable, compatible, and comprehensible in the context of existing management priorities and tools.

VI. Obstacles to Effectiveness: Preferences, Biases, and Games

Even transparency systems that manage to embed new information in users' and disclosers' decision routines may fail to become effective, however. Users or disclosers may consider such information but decide, on balance, that new data does not justify changes in decisions. Or they may act on new information in ways that further their own priorities but do not further policy objectives. Alternatively, users and disclosers may attempt to further their own and policy-makers' priorities but fail to do so because they misunderstand the new information. Our research suggests that lack of congruence between participants' and policy makers' goals and misinterpretations by users and disclosers are the main obstacles to the effectiveness of transparency systems that have managed the difficult task of embedding new information in everyday choices.

Congruence of User and Discloser Goals and Actions with Policy Objectives

As we have discussed, both users and disclosers employ information to advance their own aims, which may or may not be identical to or even consistent with public policy goals. Effective transparency systems tap into user goals that are consistent with public goals. Users' choices then create sufficient pressures to encourage disclosers to take actions that coincide with public goals, even if discloser goals are different.

The goals of most information users are likely to be substantially congruent with policy goals of transparency systems since, in principle, such systems are created to protect users' interests. Both public officials and car buyers generally aim to use rollover ratings to reduce risks of death and injury. Both public officials and patients generally aim to use hospital report cards to reduce deaths and injuries from medical errors. Sometimes, however, public goals and the goals of at least some users do not coincide. If such lack of congruence translates into users' action or inaction that weakens or distorts signals to disclosers, system effectiveness is likely to be weakened as well. The

¹⁰ This is analogous to deterrent effects under standards-based regulatory systems.

public goal of nutritional labeling was to reduce risks of heart disease and cancer. Many shoppers' private goals, as it turned out, were to lose weight. When dieters focused on cutting calories but not saturated fats, they complicated the signal to disclosers who were considering whether or not to introduce products that were low in saturated fats. The public goal of so-called Megan's laws, which require disclosure of the place of residence of convicted sex offenders, was to enable community residents to avoid proximity to offenders or increase their watchfulness, if they believed that was necessary. However, some users employed the information to carry out vigilante attacks.

Disclosers' goals are less likely than users' to be congruent with the goals of transparency systems. In our stylized action cycle, disclosers alter their behavior primarily to satisfy external demands -- market pressure or political action by users. Disclosers voluntarily advertise favorable news about their activities. Government-mandated disclosure generally forces them to reveal unfavorable news about public risks or faulty performance that would not otherwise be made public. (Indeed, that is the primary justification for government intervention.) Both in deciding what to disclose and in deciding how to respond to users' pressures, disclosers usually have to weigh conflicting interests. They seek to avoid reputational harm but they also seek to minimize use of resources and maximize competitive advantage. Because all transparency systems represent political compromises, loopholes frequently provide disclosers with unintended opportunities to maximize their own interests and minimize harmful disclosures. As a result, disclosers may respond to users' actions in counterproductive ways, from policy makers' perspective. Thus, while many disclosers act in good faith, some under-report or hide risks or performance problems.

In a recent example with national and international consequences, large and well-respected public companies such as Enron and WorldCom manipulated disclosed earnings to gain investors. Long-standing government-mandated transparency required publicly traded companies to disclose quarterly earnings. In the 1990s, however, when investors became obsessed with quarterly earnings, companies sometimes took extreme actions to meet investors' expectations. Enron, WorldCom, and others placed substantial expenses "off balance sheet" instead of justifying the zigs and zags in quarterly earnings. When that was discovered in 2001 and 2002, a number of companies declared bankruptcy and new disclosure rules were enacted to close loopholes. Likewise, some companies engaged in "paper reductions" to reduce reported toxic pollution. A common concern raised about school report cards is that administrators and teachers may alter curricula and pedagogical methods in response to parents' concerns without necessarily improving underlying educational methods (Meier, 2000; Committee on Appropriate Test Use, 1999).

Sometimes, of course, the goals of at least some disclosers do coincide with public policy goals. In a notable example, many food companies ultimately favored government-mandated nutritional labeling. Such labeling helped them justify charging higher prices for healthier foods and helped them improve their corporate images. Some companies favored government-mandated organic labeling for similar reasons. In other situations, the goals of particular executives within disclosing organizations may be served by

transparency. Environmental, safety, or financial officers within companies may be able to use required transparency, with its reputational risks, to gain supporters for improvements in practice that they have advocated without success in the past.

However, congruence between policy makers' goals and disclosers' goals is not necessary. In order for a transparency system to be effective, what is needed is *congruence between policy goals and actions of users and disclosers*. At best, transparency policies trigger user actions that cause disclosers to advance some public good—such as lowering risks to public health—in the course of furthering primary private goals such as maximizing profit, expanding market share, protecting brand reputation, or maintaining public trust. In this way, transparency policy works as a "visible hand" that can harness private incentives for public ends.

Misinterpretations by Users and Disclosers

Even when goals are congruent, however, there can be many slips between users' and disclosers' intentions and their actions. Thus, a second kind of obstacle concerns inaccurate interpretation of new information. Some misinterpretations are the result of cognitive problems. In a generation of research that developed the tenets of behavioral economics, economists and psychologists have found that some common shortcuts used to process new information can lead to systematic cognitive distortions. For example, most people tend to overestimate risks due to rare cataclysmic events or risks they hear often repeated while underestimating more frequent risks such as auto accidents and heart disease (Kahneman and Tversky, 1996; Kahneman, 2003). Researchers suggest that people have particular difficulty linking low probability risks and day to day decisions such as labor market or product choices (Viscusi and Magat, 1987; Viscusi and Moore, 1990; Hammit et al., 1999). Other misinterpretations by users are the result of failure to accurately interpret scientific information or transparency system metrics. For example, journalists, often an important category of information users, widely misinterpreted factory managers' disclosed pounds of toxic pollution as equivalent to public risks, leading to headlines about "worst polluters" that encouraged managers to reduce total pounds of chemicals rather than risks from toxicity and exposure. Whatever their cause, users' misinterpretations can lead to over or under-reactions that in turn trigger discloser responses that waste resources or counter public policy goals.

Disclosers, too, can misinterpret new information in ways that create barriers to transparency effectiveness. We have discussed the importance of disclosers' comprehension of users' market choices or political preferences to the embedding of that information in routine corporate or government agency decisions. However, sometimes disclosers embed misunderstood information in decision-making. Restaurant managers may focus on employee hand-washing when patrons responding to government-imposed grades were more concerned about rodent droppings or stale food. Banks may increase lending to relatively prosperous businesses or residents in inner city areas while community groups were more concerned about targeting struggling businesses and low-income residents. As noted earlier, manufacturers may reduce pounds of toxic

chemicals released into the air and water while community residents have specific concerns about reducing exposure to chemicals that cause cancer or serious neurological damage. When misunderstood information becomes embedded in disclosers' decision-making, it can create a systemic distortions that impede transparency effectiveness.

In summary, lack of congruence in goals and actions and misinterpretations of new information can reduce the effectiveness of transparency systems, even if information becomes embedded in routines. Sometimes such distortions mean that new information does more harm than good in terms of furthering specific public policies. These gaps between effect and effectiveness can be reduced by designing transparency policies that produce accurate and easily understood information. As a practical matter, however, many gaps become evident only after transparency systems have operated for some time and their action cycles can be evaluated. Mid-course corrections therefore become essential. Including architectural provisions that provide analysis of loopholes and misunderstandings, and providing for periodic updating of metrics, increases the chances that obstacles will not cripple a promising transparency system.¹¹

VII. Evaluating the Effectiveness of Transparency Systems

In order to better understand why some systems prove more effective than others, we have analyzed eight systems and reviewed existing literature to gauge their impact on key policy outcomes. As noted earlier, we have chosen these systems because they are relatively mature, are backed by a strong public mandates, create incentives for change through a variety of market and collective-action mechanisms, have received substantial scholarly scrutiny, and contribute to a robust cross-cutting analysis of transparency effectiveness. Each represents a substantial regulatory innovation in its own policy domain.¹²

Based on these studies, we have placed transparency systems in three broad groups according to their effectiveness:

- *Highly effective*: The transparency system has changed behavior of most users and disclosers in a significant way and in the direction intended by policy makers;
- *Moderately effective*: The transparency system has changed behavior of a substantial portion of users and disclosers in the intended direction but has also left gaps in behavior change and/or generated unintended consequences;
- *Ineffective*: The transparency system has failed to appreciably change the behavior of users and disclosers or has changed behavior in directions other than those intended.

¹¹ The capacity to undertake such ongoing improvement will, in turn, be affected by the factors related to sustainability discussed in Fung, Graham, and Weil, 2002.

¹² We describe each of these policies more fully in Fung, Graham, and Weil, 2002.

Table 1 provides an overview of the eight transparency systems we studied. Table 2 provides our assessment of the degree to which new information becomes embedded in users' and disclosers' decision-making, summarizes intended and unintended effects, and summarizes the literature on each policy regarding its effectiveness.¹³

Highly Effective Transparency Systems

Several well-known transparency systems have contributed to significant, long-term behavior changes by users and disclosers in the direction intended by policy makers. We summarize here the evidence of effectiveness for three such systems. Although these systems have encountered problems and required major adjustments over time, evidence suggests that they share core strengths. They have generated information that users and disclosers have incorporated into their decision-making routines and actions. They have tapped into users' goals and provided information that users want. Each provides layers of information for different users through government-created metrics and/or intermediaries' interpretations. Finally, these systems illustrate the versatility of transparency policies. They influence market transactions, political action, or both.

a. Reducing Risks to Investors

The U.S. system of corporate financial reporting has proven highly effective in reducing hidden risks to investors and improving corporate governance. The information it provides has become strongly embedded in the decision-making of investors and intermediaries, and investor responses, in turn, have become strongly embedded in companies' decision-making. As in many other countries, companies whose stock is publicly traded in the United States must disclose their profits, losses, and financial risks in standardized formats and at regular intervals. Initially adopted in the 1933 and 1934 Securities and Exchange Acts after millions of investors lost their savings in the stock market crash of 1929, this system has been characterized by episodic improvements, often in response to crises that have revealed disclosure flaws or new attempts to game the system. The latest crisis – the corporate scandals of 2001-2003 – has shown the system's continuing vitality: crisis demonstrated investors' reliance on required information and the high costs to firms caught gaming the system, and triggered new laws to strengthen disclosure in order to keep pace with changing markets and public priorities. Over time, the United

¹³ Because the action cycle is more complex for information-based regulation than for rule-based or financial-incentive-based measures and because relatively few researchers have recognized the need to rigorously evaluate transparency policies, effectiveness literature is variable. Some researchers have undertaken direct analyses of user and/or discloser responses to new information. Others have focused on one link in the chain of events that leads to effectiveness: discloser compliance with information requirements, user understanding of new information, or responses by investors, consumers, or other subsets of users.

States has developed the world's most exacting and most studied system of mandatory financial reporting.

The purposes of this transparency system have remained constant: to protect investors from hidden risks, provide them with needed information to make investment decisions, and improve corporate governance. As noted earlier, required information has become highly embedded in the decision processes of both users and corporations. Institutional and individual investors use key indicators from quarterly and annual reports to inform stock purchases and sales. Securities' analysts, brokers, financial advisors, and other intermediaries translate these reports into user-friendly data for clients. Internet-based systems customize information to suit the needs of investors and search-facilitating technologies improve its readability. Comparability and reliability are strengthened by detailed rules and interpretations issued by the federal Securities and Exchange Commission (SEC), by the conventions of highly trained accountants, by independent auditing, and by SEC enforcement. Company managers, in turn, have become accustomed to tracking investor responses to their financial disclosures as a routine practice and respond to perceived investor concerns.

While some economists have questioned the need for and effectiveness of a mandated financial reporting system (Stigler, 1964; Benston, 1973), a growing literature suggests that such reporting has been effective both in reducing investor risks and in improving corporate governance. Research suggests that financial reporting limits investors' risks by reducing investment errors and costs of identifying appropriate investment opportunities (Simon, 1989; Botosan, 1997) as well as by generally reducing information asymmetries between more and less sophisticated investors (Bushman and Smith, 2001; Greenstone et al., 2004). Research also concludes that public reporting reduces firms' cost of capital (Botosan, 1997) and attracts the attention of analysts who may then recommend the stocks for purchase (Lang and Lundholm, 1996).

The literature also suggests that reporting improves corporate governance by reducing information asymmetries between shareholders and managers, encouraging managerial discipline, reducing agency costs, supporting enforceable contracts, and disciplining corporate compensation (Bushman and Smith, 2001; Healy and Palepu, 2001; Ball, 2001). Analyses of foreign companies that adopt the more rigorous U.S. disclosure rules conclude that they experience market benefits. Newly disclosed information reduces investor errors in achieving their investment goals and improves companies' stock liquidity and access to capital, explaining why some foreign companies voluntarily adopt such rules (Leuz and Verrecchia, 2000). Comparative studies also have concluded that investors are less likely to buy stocks during financial crises in countries with relatively low transparency and that investors leave less transparent markets for more transparent ones during crises (Gelos and Wei, 2002).

b. Improving Restaurant Food Safety

Government grading of restaurants provides a very different kind of example of a highly effective transparency system. A bold disclosure system

adopted by Los Angeles County in 1997 requires managers to post in their windows government-determined letter grades, ranging from A to C, that reflect the results of hygiene inspections. Early research suggests that grades have become quickly embedded in customers' decision-making. Restaurant managers, in turn, have incorporated the changed choices of customers in their decisions about hygiene. Publicly posted hygiene grades reduce search costs for consumers and provide restaurants with competitive incentive to improve. Restaurant grades are available *when* users need them: at the time when they make a decision about entering an establishment. Grades are available *where* users need them: at the location where purchase of a meal will take place. And they are available in a *format* that makes complex information quickly comprehensible. Restaurant grades also promote comparison-shopping in situations where most consumers have real choices. Most importantly, the information tells consumers something that they want to know and couldn't easily find out for themselves—the comparative cleanliness of restaurants. Restaurant managers, in turn, have both marketing and regulatory incentives to pay attention to customers' perceptions of food safety. The cumulative effects of customer responses create market incentives to improve hygiene while more general reputational threats and the prospect of further regulatory actions also heighten attention to food safety. A similar system has been adopted in North Carolina, where grades are also published in newspapers, magazines, and on the web. Other jurisdictions, such as New York City, disclose full inspection reports on the Internet.

Research has suggested that the Los Angeles transparency system is highly effective. Researchers have found significant effects in the form of revenue increases for restaurants with high grades and revenue decreases for C-graded restaurants. More importantly, they have found measurable increases in hygiene quality and a consequent significant drop in hospitalizations due to food-related illnesses. Overall, more informed choices by consumers appear to have improved hygiene practices, rewarded restaurants with good grades, and generated economic incentives that stimulated competition among restaurants (Jin and Leslie, 2003).

c. Reducing Discrimination in Mortgage Lending

Required disclosure by banks of their mortgage lending practices has proven highly effective in improving access to mortgages by minority groups and inner-city residents. The Home Mortgage Disclosure Act (HMDA), enacted in 1975 and significantly strengthened in 1989, requires banks to disclose information on mortgage lending by race, gender, census tract, and income level in order to reduce discrimination in lending. Mandated information has become highly embedded in the decision processes of both information users and banks. National and local advocacy groups have used the information to put pressure on banks to make more loans to minorities, women, and in inner-city areas. Groups have compiled public cases against particular banks in specific communities and negotiated with those banks to improve their practices. Bank regulators, another significant group of users in this system, have used disclosed information to promote new rules to fight discrimination in access to credit, monitor improvements in lending, and tighten enforcement.

This is an instance where a transparency system works synergistically with conventional regulation to promote fairness in an important public service. Under the Community Reinvestment Act, regulators use disclosed data as one factor in approving banks' requests for mergers or acquisitions. This regulatory requirement creates added incentives for banks to respond to the demands of advocacy groups. Interestingly, banks themselves have also employed government-mandated lending data to identify important new market opportunities in inner-city communities. Some institutions even specialize in financial products specifically targeted at low-income clients.

Initially, disclosures and the press reports they spurred demonstrated to a wide audience that discrimination was a common practice. Disclosures also helped to provide the impetus for stronger regulation of bank practices (Schafer and Ladd, 1981; Munnell et al., 1996). Researchers have observed that financial institutions have tended to improve their lending to meet communities' needs prior to merger applications (Bostic et al, 2002). Research also suggests that this transparency system has improved access to mortgage loans by minority groups during the 1990s and contributed to increases in home ownership for all racial groups (The 25th Anniversary of the Community Reinvestment Act, 2002; Bostic and Surette, 2001).

Moderately Effective Transparency Systems

Many transparency policies have proven moderately effective, characterized by more limited changes in discloser behavior, or by mixed responses that advance public policies and counter regulatory aims. Three important systems, nutritional labeling, toxic pollution reporting, and disclosure of workplace hazards, illustrate how transparency can further policy objectives but also can encounter practical problems that limit effectiveness. These policies do not completely embed the information they produce into the decision-making processes of users and disclosers. In addition, lack of congruence between users' and policy makers' goals as well as misinterpretations of data produce weak user responses. Discloser changes in practice, in turn, have been variable.

a. Reducing Risks of Disease through Nutritional Labeling

Nutritional labeling has helped health-conscious consumers to reduce risks of heart disease, cancer, and other chronic diseases and has encouraged some food companies to introduce healthy-product brand extensions. However, the effectiveness of such labeling has been limited because many consumers do not understand or use the labels, and users have competing priorities (price and taste, for example). Food companies generally have not improved the healthfulness of their basic product lines but have responded by introducing brand extensions. Beginning in 1994, the U.S. Congress required producers of packaged foods to label amounts of fat, protein, carbohydrates, and other nutrients in products sold within the United States. The purpose of nutritional labeling was to reduce heart disease, cancer, and other chronic diseases that remain the causes of most early deaths in the United States. Medical research

had established that over-consumption of saturated fats, sugar, and salt could increase risks of these illnesses. Congress intended new labels both to change shoppers' habits and to encourage companies to market healthier products. The law required that labels use standardized formats, metrics, and recommended consumption levels to promote comparability.

Despite its ingenious design, this transparency system, available on every can of soup, candy bar, and box of cereal, has not become strongly embedded in most consumers' decisions. Researchers have found that some shoppers, especially those who are well-educated and interested in health, have understood and responded to new information by changing purchasing habits. But most shoppers have not changed their behavior in response to labels (Derby and Levy, 2001; Mathios, 2000). Many consumers do not consider nutritional information relevant to purchasing goals, the scope of nutritional disclosure has remained limited, and labeling has not kept pace with new science.¹⁴ Even though nutritional information is available when and where consumers need it, the label itself has not proven comprehensible to many consumers. The meaning of terms like "protein" and "saturated fat" and the use of percentages and serving sizes remain perplexing to many, especially to less educated, older, and young shoppers. Confusion about how low-fat foods (which may be high in calories) relate to weight loss has also frustrated dieters. Research highlights that consumers tend to over-emphasize fat content relative to total caloric intake when dieting (Derby and Levy, 2001; Garretson and Burton, 2000).

Receiving mixed signals from consumers about their interest in healthy products, company responses have been conservative. Analyses suggest that food companies have tried to anticipate consumers' responses to nutritional labels and have reacted strategically, in ways that are only partially congruent with the aims of nutritional labeling policy. Most companies have continued to market traditional high-fat, high-sodium, high-sugar products, sometimes adding positive ingredients such as fiber or introducing brand extensions of low-fat or low-sodium products (Moorman, 1998).

Whether nutritional labels have improved public health remains uncertain. Americans reduced their fat consumption during the early 1990s but did not reduce total calorie intake, leading to concerns about obesity (Derby and Levy, 2001). Per capita fat consumption increased markedly between 1997 and 2000 and sugar and calorie consumption continued to rise (1999-2000 Healthy Eating Index).

b. Minimizing Toxic Pollution

Legislated disclosure of toxic pollution has also proven only moderately effective in reducing toxic chemical releases. Information has not become embedded in decision-making by home owners and community residents. Companies' reported reductions of releases have been uneven and,

¹⁴ For example, there are no nutritional information requirements on foods that make up about half of the American food budget – fast food, restaurant food, and food from delis or mom and pop stores. We have discussed the system's failure to improve in our analysis of the sustainability of transparency systems (Fung, Graham, and Weil, 2002).

due to faulty metrics, may not have improved public health. In 1986, in the aftermath of a chemical accident that killed more than 2000 people in Bhopal, India and reports of smaller accidents and near-misses in the United States, Congress required manufacturers to disclose annually how many pounds of toxic chemicals they released to the air, water, or land, chemical by chemical and factory by factory. Initially enacted as a public “right to know” measure, this transparency requirement soon became viewed by regulators as one of the federal government’s most effective pollution-control devices. Executives of some major companies announced plans to reduce toxic pollution radically and reported releases declined substantially during the next decade.

Nonetheless, data concerning toxic releases remains minimally embedded in the market decisions of most potential users of such information. Most home buyers, renters, job seekers, consumers, and investors remain unaccustomed to considering toxic chemical releases when they decide what neighborhood to live in, where to send children to school, where to work, or what companies to buy stock in. In contrast to experience with the transparency system for home-mortgage lending, furthermore, advocacy groups have not for the most part incorporated toxic release data into their core strategies.

However, while information has remained relatively disembodied from market transactions and community action, it did become quickly and strongly embedded in important regulatory and administrative processes, particularly in actions by Congress and federal regulators. Existing goals and decision processes made these officials highly responsive to the new information. Federal environmental regulators had been urging stricter regulation of toxic chemicals for more than a decade and had been struggling with the lack of reliable information to support their efforts. Enforcement officials welcomed information that provided a better basis for their actions. (Graham, 2002)

Anticipated reputational and regulatory threats quickly embedded newly disclosed information into manufacturers’ routine decision processes. Some companies sought to reduce their emissions by engaging in pollution prevention strategies while others substituted chemicals or changed accounting practices in ways that improved reports without necessarily improving public health.

However, researchers have suggested that the effectiveness of this transparency system has been more limited than it appears. National news coverage created time-limited investor responses (company stock prices declined) to the first round of disclosures of surprisingly high levels of toxic releases by many publicly traded companies (Hamilton, 1995; Konar and Cohen, 1997). In addition, firms with large amounts of toxic releases became more forthcoming in disclosing environmental data in their 10K forms (Patten, 2002). There is, however, little evidence of long-term market response by potential users of the information, including home-buyers and renters, employees, and consumers. Data have had no apparent effect on housing prices and have not stimulated the expected community response to pressure polluters (Bui and Mayer, 2003). On the other hand, initial responses by those involved in making new pollution rules – especially legislators, regulators, environmental groups, lobbyists – did help to strengthen incentives for

companies to reduce toxic releases, in the form of stricter laws and regulations (Graham, 2002; Graham and Miller, 2001). Many targeted companies, especially those with national reputations to protect, made commitments to long-term reduction of toxic releases in response to the first shocking disclosures and took some specific actions to minimize such releases. The effectiveness of these actions in reducing toxic pollution remains uncertain. Researchers have found that some decreases reflected changes only in reporting procedures, that substituted chemicals were not necessarily less toxic, and that reported decreases and increases of releases varied widely by state, industry, and year (Bui, 2002; Graham and Miller, 2001). It remains unclear whether this transparency system ultimately will contribute to improved public health.

c. Reducing Health and Safety Risks in the Workplace

Required disclosure of workplace hazards is another transparency system that has proven only moderately effective. Information has remained minimally embedded in employees' decisions and only moderately embedded in employers' decisions. In 1983, the federal government instituted an important new transparency system to improve workplace safety. New regulations required manufacturers to disclose to employers characteristics of hazardous chemicals they sold and to include substance names, hazards, and manufacturers' identities on warning labels. The government required employers, in turn, to disclose hazard information to workers. The new rules required employers to post material safety data sheets wherever hazardous chemicals were used, describing characteristics, hazards, precautions, and emergency measures. The purpose of this new hazard communication system was to reduce risks to workers by facilitating self-protection and by encouraging employers to substitute less hazardous chemicals for more hazardous ones. Government regulators estimate that three million workplaces are subject to this transparency requirement.

Researchers have found contradictory evidence that this system, which imposed substantial new reporting burdens on employers and manufacturers, has improved worker safety. Despite its compatibility with workers' goals of limiting their own risks or seeking higher wages to compensate for them, new information about chemical hazards has not become embedded in most employees' routine decision-making. Accessible only within the workplace and in disaggregated form, information has not been available at a *time, place, and format* to inform job seekers' decisions. For workers already on the job, data sheets were often too *complex* to be comprehensible and lacked indicators of *comparability* of the magnitude of health and safety risks.¹⁵ In addition, the

¹⁵ Indicative of this problem is that Congress undertook in the late 1980s a supplemental effort to provide risk information to workers to supplement perceived deficiencies in the Hazard Communication Standard (the High Risk Occupational Disease Notification and Prevention Act of 1987). The Act was introduced because of Congressional concerns that the original Hazard Communication Standard failed to provide adequate information or protection to employees. Although the Act did not pass after several attempts, its sponsors cited similar concerns about the inability of workers to translate information into action (Arnett, 1992).

quality of required safety training has varied widely from workplace to workplace. Small workplaces often lacked the capacity to interpret chemical information and provide employees with sufficient training (GAO, 1992).

Exercising broad discretion permitted by regulators, employers have produced information sheets that vary widely in quality, detail, and technical vocabulary. Research on the quality of data sheets has shown that only 51% of analyzed sheets were partially accurate in all their sections (Kolp et al., 1995). Workers were generally able to understand only around 60% of the information in such sheets (Hazard Communication, 1997; Kolp et al., 1993). The high *cost* of understanding information has discouraged workers from using it to change work habits. Even in cases where workers seemed to comprehend safety information, they used it only in a limited fashion (Phillip et al, 1999). It should be noted that all of the documented cases of the impact of training and disclosure on information occurred within unionized establishments where unions potentially played a key third party role as user intermediaries (Weil 2004; Fagotto and Fung, 2003). The absence of unions in more than 90 percent of private sector workplaces raises questions about the generalizability of these results to nonunion workplaces.

Nonetheless, chemical hazard information has become embedded in some employers' decision-making processes. Limited evidence suggests that the awareness of risks associated with certain chemicals has led some employers to switch to safer substances. One analysis found that 30% of surveyed employers switched to safer chemicals in response (GAO, 1992). Concerns about potential liability claims by customers and/or workers also may have fueled some switching in the use of chemicals (Arnett, 1992). In addition, material safety data sheets became a useful tool for the exchange of information between manufacturers and corporate users of hazardous chemicals so that some chemical manufacturers have extended their use to non-hazardous chemicals. Overall, the hazard communication system appears to function better as a tool to exchange information among chemical producers and chemical users than as a device to help employees to protect themselves at work, avoid dangerous workplaces, or demand higher pay in light of increased risk.

Ineffective Transparency Systems

Ineffective transparency systems lead to little or no lasting change in the behavior of users or disclosers in furtherance of policy objectives. Some transparency systems prove ineffective because pre-existing decision processes of would-be information users resist the incorporation of new information, because users face a very limited set of choices and so cannot act on new information, or because users' goals differ from those of policy makers. Other systems prove ineffective because disclosers fail to respond to user signals or respond in ways that actually exacerbate the public problem that the system seeks to address.

a. Reducing Medical Mistakes

Despite wide differences in hospital safety, early transparency systems have not proven effective in reducing medical errors. In 1999, the National Institute of Medicine reported that medical errors in hospitals created a major public safety problem, claiming between 44,000 and 98,000 lives a year and causing tens of thousands of serious injuries. The national transparency system that the Institute recommended to address these differences was not adopted by Congress. But a variety of state-mandated hospital and doctor report cards were adopted in the 1990s, notably in New York and Pennsylvania. These state transparency systems were intended to reduce errors by informing patients about the relative safety of hospitals. Early research suggests, however, that such systems have not yet become embedded in patients' decision-making. Problems related to timely access to information, difficulties in comprehending its meaning, and limited choices have minimized patients' use of information. Metrics have proven particularly problematic. Some evaluations of report cards found they had low predictive accuracy and were based on data with internal inconsistencies (Green and Wintfeld, 1995). Some physicians have criticized report cards as overly focused on mortality rates and inaccurately risk-adjusted. In addition, hospital managers, concerned about liability issues and unaccustomed to monitoring patient responses to safety, have had strong incentives to avoid providing information about patient safety and have had limited institutional mechanisms for learning from past mistakes in order to improve future safety (Graham, 2002).

Most research to date has found state patient safety transparency systems to be ineffective. Several studies have found that few patients were aware of report cards or used the information to choose hospitals or physicians (Schneider and Epstein, 1998; Marshall et al., 2000; Mukamel and Mushlin, 2001). Despite mandatory disclosure, friends and family have remained the principal sources of information about medical care (Robinson and Brodie, 1997). Mandatory disclosure has not prompted patients to stop using hospitals with high mortality rates or increase use of hospitals with good rates (Chassin et al., 1996), although some evidence suggests that hospitals and physicians with good report cards have experienced market share growth in some geographical areas (Mukamel and Mushlin, 1998). Other studies have suggested that few doctors discussed report cards with their patients and that some report cards may have created a disincentive to operating on severely ill patients (Schneider and Epstein, 1996). One analysis of the impact of report cards on cardiac surgery in New York and Pennsylvania suggested that they were associated with an increase in procedures performed on healthier patients and an increase in patients with more severe conditions treated at higher quality hospitals (Dranove et al., 2003). Limited user choice and discloser capacities for change may be important factors in these results. Many decisions about hospital use are one-time, unplanned events characterized by serious time, resource, and geographical constraints, as well as by prior commitments to health plans and doctors. With two-thirds of American hospitals in some kind of financial difficulty and with information about adverse events traditionally decentralized in morbidity and mortality conferences, hospital managers have rarely improved practices based on responses to newly mandated transparency.

Medication errors, the most common medical errors, continue to increase rapidly.

b. Reducing Disruptions Due to Major Plant Closings and Layoffs

The use of a transparency system to alert workers of impending plant closings has proven ineffective in limiting workers' and communities' dislocation costs. In response to a wave of high-profile plant closings in the mid-1980s, Congress passed the Worker Adjustment and Retraining Notification Act (WARN) in August 1988. WARN requires employers to provide advance notice of plant closures or large scale layoffs to affected workers and local communities. The information is relatively straight-forward: employers must provide affected employees with 60 days notice of a closing involving 50 or more workers at a single workplace and involving one-third of the workforce as a whole (GAO, 2003). The law sought to improve post-layoff outcomes for displaced workers as well as provide communities facing significant impacts from large-scale closures with time to make adjustments or find alternative solutions with employers.

In practice, it is not clear that this transparency system has materially affected the decision-making processes of workers facing the prospect of layoffs. Many of the workers that the law was designed to assist (that is, employees of large facilities, particularly in the manufacturing sector) did not often face the need for a job search.¹⁶ Notice of layoff in and of itself provided little assistance to them in how to find new employment, and certainly had no effect on the availability of other options. Further, the 60-day notice required by WARN starts running when workers are still employed, limiting the amount of time available for job search. Thus the capacity of individuals to engage in full job searches upon notification is highly constrained. The required information may also come too late for unions, community groups, or other intermediaries to change the decision to close. Third parties also may lack capacity and /or experience to facilitate job search (GAO, 2003). Finally, the objectives of users, third parties, and disclosers may prove quite diverse in the face of closures, leading them to pursue different strategies in the face of information about the imminent event. Not surprisingly, there are few documented cases of employers' changing closure or mass layoff decisions in the wake of community- and/or union-notification of the impending closure (Gerhart, 1987; Gordus, et al., 1981; U.S. Secretary of Labor's Task Force on Economic Adjustment and Worker Dislocation, 1986).

Studies of WARN's impact on reemployment prospects of displaced workers consistently show limited impacts. Several studies have found that WARN has only modest impact on the provision of advanced notice information beyond what had been voluntarily provided prior to the Act

¹⁶ Indeed, in many of the industries with large scale closings that led to passage of WARN—for example, automobiles, steel, rubber, textiles—a significant percentage of workers had been employed by the company facing closure for much if not all of their work life (Levin-Waldman, 1998). Although WARN in theory provides these workers information on impending closures, their lack of prior experience in job search limits the utility of advanced notice as several studies of reemployment suggest.

(Addison and Blackburn 1994; 1997; Levin-Waldman 1998). In those cases where new information has been provided, workers have done somewhat better in finding new employment in the immediate wake of displacement. However, for those who do not find jobs immediately following closures or layoffs, spells of unemployment tend to be longer than workers who were not notified. Thus, if there are effects on reemployment—one of the principal objectives of WARN—they are modest and restricted to a subset of workers.

VIII. Conclusion: Transparency's Domain

Our analysis suggests that transparency systems must meet two challenging conditions in order to be effective. First, they must *embed* information into the ordinary decision-making and action processes of information users and disclosers. Second, the responses of both users and disclosers must ultimately be *congruent* with policy objectives. Unlike many proponents who view transparency as automatically producing public benefits, we suggest a more measured analysis. As we have seen from a review of eight important cases, conditions for effectiveness are quite demanding and therefore not easily met. Many transparency systems fail to embed information and produce congruent actions because they are poorly designed. However, sometimes even the best-designed systems fail to embed information or create incentives that translate private actions into public benefits. In such situations, transparency is an inappropriate regulatory tool. We offer a three-tiered framework for understanding which kinds of policy problems are appropriate for regulation by transparency.

In one category of policy problems, new information can be easily embedded into the routines of users and those users would be likely to act in ways that spurred reactions from information disclosers that advanced public aims. In such cases, the implementation of well-designed transparency policies might shift the behavior of disclosers in socially beneficial directions. Such situations exhibit three characteristics. First, would-be information users systematically make suboptimal choices from a social perspective because they lack certain salient information. Second, if they had this information, users would have the will and capacity to change their behavior accordingly. Third, their new choices would cause information disclosers to alter their behavior in ways that would make behavior more congruent with policy intentions. Corporate financial disclosure, restaurant hygiene grading, and mortgage-lending reporting represent such transparency systems. Disclosure of hospitals' medical mistakes or broader measures of relative quality may represent another such area of promise. Patients, employers, and insurance companies lack information about patient safety and have strong incentives to find safe providers. Hospitals have economic and reputational reasons for responding to patients preferences. The ineffectiveness of transparency efforts to date may be due more to the novelty of these programs, design and enforcement weaknesses, and political resistance than to problems in the underlying processes of patient choices and hospital response to appropriate information, constraining though those are.

In a second category of policy problems, transparency by itself proves insufficient to generate effective policy outcomes but can be designed to work in tandem with other government actions to embed information in action cycles that produce congruent behaviors by disclosers. In this category, transparency requirements can generate relevant information but that information may not be easily embedded into the pre-existing cycles of user choice and discloser response. In mortgage lending, for example, bank transparency generated highly salient information that allowed community organizations to identify the ways in which local banks discriminated against certain groups of borrowers or against particular neighborhoods. Those organizations, however, may have lacked the power to successfully demand that those banks alter their behavior. An appropriate background of forceful regulatory rules against discrimination by financial institutions altered the action cycle in ways that embedded information into the strategies of users and responses of disclosers. Similar synergistic regulatory provisions might improve the effectiveness of many other transparency systems.

For a third category of policy problems, even well-designed and supported transparency systems are unlikely to be effective either because it is difficult to embed policy-relevant information into users' routines due to lack of choice or other insurmountable obstacles, because the goals and actions of users are incongruous with those of policy-makers, or because it is difficult to bring discloser actions in line with policy goals. In the case of factory closure transparency, for example, the need to keep impending closure decisions confidential because of the negative business ramifications of early release of that information and the significant period of time many communities need to prepare for plant closings almost preclude finding an advanced disclosure period compatible with the inherent needs of disclosers and users. In product markets where consumers emphasize price or styling over health or safety concerns, transparency systems, without related educational efforts, are likely to waste time and resources with little public gain.

Even in the first category of problems for which transparency systems are most promising, however, there are daunting challenges to making such policies effective. Some of these challenges concern designing policies in ways that produce information that will—by virtue of its salience to users, validity, timeliness, accessibility, and ease of use—become embedded in their routines of decision and action. The discussion above offers guidance regarding the most important aspects of embeddedness. Other challenges, discussed in our paper on transparency system sustainability, concern maintaining the will to improve those policies as conditions evolve and to prevent them from being captured by narrow interests. Transparency systems have demonstrated extraordinary promise in furthering important public priorities but they can realize that promise only if they are used as part of a disciplined process that sets priorities, assesses probable impacts, and provides architecture to minimize unintended consequences and promote mid-course corrections.

IX. Tables

Table 1

Information Disclosure Systems: An Overview of the U.S. Policies Analyzed in the Paper, Organized by Effectiveness Level

	DISCLOSURE SYSTEM	YEAR	INFORMATION DISCLOSED	PRIMARY DISCLOSERS	PRIMARY USERS
HIGHLY EFFECTIVE	Corporate Financial Disclosure	1933, 1934	Financial characteristics of companies	Public companies	Investors & financial intermediaries
	Restaurant Hygiene Quality Grades	1997, Los Angeles County	Letter grades reflecting hygiene inspection results	Restaurants	Consumers
	Mortgage Lending Reporting	1975, expanded in 1989 (FIRREA)	Lending by census tract, race, gender, income level.	Banks and other lending institutions	Community groups, regulators
MODERATELY EFFECTIVE	Nutritional Labeling	1994	Nutrients in most processed foods	Food companies	Consumers
	Toxic Release Reporting	1986	Amount of toxic releases	Manufacturers	Regulators, environmental groups
	Workplace Hazards Disclosure	1983, expanded in 1987	Information on hazardous material present in the workplace	Manufacturers, employers	Workers, employers
INEFFECTIVE	Patient Safety Disclosure	1990, New York; 1992, Pennsylvania	Mistakes in patient treatment	Hospitals and health care providers	Patients, major health care purchasers
	Workers Notification Of Plant Closing	1988	Plans of large scale termination/ facility closings	Large companies	Affected workers and communities

Table 2

Transparency policy evaluation of embeddedness and effectiveness

Disclosure System	Information	Embeddedness in Users' Decisions	Embeddedness in Disclosers' Decisions	Summary of effects (intended, unintended)	Literature Review
Corporate Financial Disclosure	Quarterly and annual company reports of assets, liabilities, risks to investors.	STRONG: Reports widely used by individual and institutional investors, securities analysts, financial planners, competitors, and others.	STRONG: Companies track investor responses through stock price.	<p><u>INTENDED</u></p> <ul style="list-style-type: none"> -reduces investors' errors -protects unsophisticated investors -creates incentives for improved corporate governance -lowers cost of equity capital <p><u>UNINTENDED</u></p> <ul style="list-style-type: none"> - inequities between sophisticated and unsophisticated investors. 	<ul style="list-style-type: none"> • Comparison of new stock issues in 1923-28 and 1949-55 suggests that mandatory disclosure requirements adopted in 1934 had no important effects on the quality of new securities sold to the public. (Stigler, 1964) • Analysis of share prices before and after the 1934 Securities Act suggests that mandated disclosure had no measurable effects on the share prices or on investor risk. (Benston, 1973) • Analysis of stock prices on regional exchanges before and after mandatory disclosure finds that variance of returns lessened substantially after disclosure Required, suggesting that investor risk was reduced even though mean returns did not change. (Simon, 1989) • Study of financial analysts' data suggests that more informative disclosure policies decrease the dispersion among analyst forecasts, leading to greater accuracy in forecasting. (Lang and Lundholm, 1996) • Analysis of 1990 annual reports suggests that greater disclosure is associated with lower cost of equity capital. (Botosan, 1997) • Literature review concludes that financial disclosure creates incentives for improved corporate governance, informing executive compensation, contract management, and shareholder and board monitoring. (Bushman and Smith, 2001) • Comparison of securities returns before and after the enactment of 1964 disclosure requirements for firms traded over the counter shows positive abnormal returns for disclosing firms. Evidence suggests that mandatory disclosure can be an effective measure to reduce activities that do not maximize shareholder value. (Greenstone, Oyer, and Vissing-Jørgensen, 2004)
Restaurant Hygiene Quality Cards	Restaurant cleanliness inspection data	Restaurant choice from consumers YES	Owners improve restaurant cleanliness YES	<p><u>INTENDED</u></p> <ul style="list-style-type: none"> -improvement in hygiene quality -improvement in physical infrastructure of restaurant -increase in restaurant revenues -reduction in number of hospitalizations for food-borne illnesses 	<ul style="list-style-type: none"> • Mandatory disclosure led to average increase in restaurant hygiene quality of 5.3% (based on point score) whereas voluntary disclosure increased it by 3.9%. The improvement of hygiene quality is reflected in a reduction of the number of hospitalizations for food-related illnesses. Restaurants under mandated disclosure also improved physical structure of buildings (longer term investment effects). Mandatory grade cards increased restaurants' revenue by 3.3%, voluntary disclosure generated a 2.6% increase. For mandatory disclosure, authors find a 5.7% increase in revenue for A grade restaurants, a 0.7% increase for B grade, and a 1% decrease for C grade. In the case of voluntary disclosure, A grade revenues increased by 3.3%, difference for B and C grades not significant from A grade. The reduced impact on revenues in the case of voluntary disclosure might stem from the fact that residents are fully informed about the system, or might assume that no grade card posted means restaurant did not undergo an inspection. (Jin and Leslie, 2003)

Disclosure System	Information	Embeddedness in Users' Decisions	Embeddedness in Disclosers' Decisions	Summary of effects (intended, unintended)	Literature Review
Mortgage Lending Reporting	Lending statistics	Bank choice NO Community groups pressure YES Regulators use data to pass new rules and tighten enforcement YES	Banks improve lending practices YES	<u>INTENDED</u> - knowledge base to assess existence and dimensions of lending discrimination -expanded access to credit for minorities -special CRA programs for neighborhoods <u>UNINTENDED</u> -community group abuse of CRA regulation in M&A time to strike "good deals" with banks (Sunshine regulation)	<ul style="list-style-type: none"> • Federal Reserve study using HMDA data to evaluate the existence of mortgage discrimination. Minority applicants have weaker financial characteristics than white ones (less wealth, liquid assets, and income). They have higher loan to value ratio and have to apply for private mortgage insurance to obtain loans. However, when minority and white applicants with same financial characteristics are compared, rejection rates of minorities are 7 to 8 percentage points higher. Race proved to be an important explanatory factor in mortgage lending decisions both for institutions with the largest number of loans to minorities (5 percent of institutions accounted for 50% of applications) and for remaining institutions. (Munnell, Tootell, Browne, and McEneaney, 1996) • Research found impact of CRA, HMDA difficult to quantify. Especially in 90s these regulation might have increased access to mortgage credit for low income-minority families, since banks introduced new mortgage programs. Furthermore, lenders are sensitive to the distribution of their loan portfolio. Finally, Congress empowered the Dept. of Housing and Urban Development to create new affordable housing goals for Fannie Mae and Freddie Mac. However, most of the increase in lending to minorities happened for banks that were not subject to CRA. However, since authors found that changes in family characteristics do not explain the increase, they conclude this should be attributed to laws on fair lending, good economic cycle, and low interest rates. (Bostic and Surette, 2001) • From 1993 to 2000 the number of home purchase loans made to black borrowers increased by 94%, to Hispanics by 140% and to other minority borrowers by 92%. Minority borrowers represented 25% of total home purchase lending in 2000, as opposed to 17% in 1993. Home purchase loans to lower income borrowers (with incomes less than 80% of MSA median income) and/or lower income communities increased by 77% (571,000 loans) from 1993 to 2000. The study attributes part of the increase to the expansion of government backed lending, especially loans insured by the Federal Housing Administration (FHA). In 2000 minorities represented 40% of home purchase mortgages insured by FHA, as opposed to 22% in 1993. (The 25th Anniversary of the Community Reinvestment Act, 2002) • The higher the percentage of mortgage originations for low and moderate income individuals in a given year, the greater the probability that the institution will acquire another bank the following year. The authors found that moving from the 25th to the 75th percentile of the distribution of CRA lending is associated with a 0.8 percentage point increase in the likelihood of making an acquisition in the following year. (Bostic, Mehran, Paulson and Saldenberg 2002).

Disclosure System	Information	Embeddedness in Users' Decisions	Embeddedness in Disclosers' Decisions	Summary of effects (intended, unintended)	Literature Review
Nutritional Labeling	Nutrients in packaged foods	VARIABLE: Labels on products at point of purchase; consumer understanding, use of complex information variable	STRONG: Companies anticipated consumer responses. Labeling contributed to introduction of low-fat, low-sodium brand extensions.	<p><u>INTENDED</u></p> <ul style="list-style-type: none"> -some consumers increase label use -producers introduce low-fat, low-salt brand extensions <p><u>UNINTENDED</u></p> <ul style="list-style-type: none"> -misinterpretation of nutritional information -label use, comprehension varies with education, income, age -consumer confusion: recent decline in purchase of low-fat and low-cholesterol products. 	<ul style="list-style-type: none"> • Survey data suggests label use increased after mandatory labeling but 70 % of adults wanted labels that were easier to understand. (Kristal et al., 1998) • Purchase, survey data suggest that producers anticipated consumer responses by adding "positive" nutrients without reducing "negative" nutrients in base brands and reducing "negative" nutrients without adding "positive" nutrients in brand extensions when labels were introduced, creating a more highly segmented market. (Moorman, 1998) • Analysis of label and scanner data suggests that sales of highest-fat salad dressings declined after mandatory labeling was introduced. (Mathios, 2000) • Survey data suggest consumers using labels focus on products' fat content. Due to variety of factors, consumers have reduced intake of calories from fat from 41.1% during 1977-78 to 33.6% in 1995 but have not reduced caloric intake overall. Fat-modified products gained significant market share 1991-1995, both before and after mandatory labeling was introduced. (Derby and Levy, 2001).
Toxic Release Reporting	Volumes of Toxics emitted	Residential choice NO Regulators to draft new rules YES Some environmental NGOs used data to fight pollution and inform the public YES	Managers clean up act YES	<p><u>INTENDED</u></p> <ul style="list-style-type: none"> -reduction in emissions -more informed public-limited -media coverage <p><u>UNINTENDED</u></p> <ul style="list-style-type: none"> -panic in communities, -panic in companies -drop in stock prices -amplifier pollution reduction for firms that had been targeted by press and had highest abnormal market returns -targeted firms reduced emission more than (untargeted) largest emitters. 	<ul style="list-style-type: none"> • There were 134 mentions of TRI-related stories by journalists for 1989; Media focused on firms accounting for larger share of pollution. Investors reaction to the publication of TRI information caused an average loss of \$4.1 million in stock market value on day 0. The effect of the information was more dramatic for firms that had also received media coverage of their releases, with average abnormal returns of -\$6.2 million on day 0. (Hamilton, 1995) • Of a sample of 40 firms with highest press coverage and highest abnormal returns, 32 reduced their TRI/\$ revenue, 8 firms increased emissions. Firms also reduced their TRI/\$ revenue ranking in their industry. Average firm in sample reduced emissions by 1.84 pounds per thousand \$, whereas an industry-weighted sample of other firms reduced by 0.17 pounds. The top 40 in terms of abnormal return were compared to the 40 largest emitters (only 11 firms were the top 40 and in the 40 largest emitters). It was found that top 40 reduced TRI emissions more than 40 worst polluters. (Konar and Cohen, 1997) • Steep declines in TRI emissions between 1987-88. Since 1988 emissions have declined more steadily. Off site transfers declined until 1990 but increased significantly from 1991, when off-site transfers started to include recycling and energy recovery. Stock market analysis shows that abnormal returns were not significant in days -1 and 0 of the event study, in any of the years. The average abnormal returns were negative and statistically significant in day 1 from 1990-1994. They were not significant in 1989. Over a 0-5 day window, abnormal returns were significant only in 1992 and 1994. (Khanna, Quimio, and Bojilova, 1998) • Reduction in emissions and transfers between 1990 to 1996 1.5 to 2.2 times more than the general TRI trend and 1.3 to 19 times greater than other companies in their same industry sector. Facilities that received negative press reduced emissions more than other facilities. For example, one facility reduced emissions of a chemical that was cited in the press by 86%, and overall facility emissions by 64%, whereas emissions at other facilities owned by the same company stayed the same. Decline in hazardous substances release from 7800 in 1994 to 5,400 in 1999. A study of four states with similar industry composition

					<p>found that releases had declined by 60% from their peak year (1992). Episodic releases of TRI chemicals from manufacturers and releases of substances above reportable quantities declined by 68% from their peak year (1990). (EPA, 2000)</p> <ul style="list-style-type: none"> • In 1988-1999 reported releases dropped by more than 50%, harmful chemicals releases declined even more and recycling improved (since 1991 recycling increased by 12%). But the rate of decline slowed down after the first 5 years of reporting. From 1988 to 1993 total releases decreased by 37%, an average of 7% per year. From 1993-1998 total releases fell by 10%, average of 2% per year. Reduction is not a national phenomenon but rather a media-industry-facility specific phenomenon. TRI emissions decreased, but toxic waste increased. Air releases decreased dramatically (-61%). Surface water releases down by 66% (trend varied a lot year by year). Land disposal of toxic chemicals increased because of higher costs of recycling. Facilities with large amount of emissions have been more successful at reducing them. There are large variations by industries, with significant reduction from chemical manufacturers, and increase in food and primary metal sector. New industries (reporting for the first time in 1998) increased their releases, by 5% (with metal mining and electric utilities driving the increase). (Graham and Miller, 2001) • Emissions beyond 1 mile circle around property have no effect on property values. Property values increase as a result of TRI info release, within the 1 mile distance, results suggests that perceptions are even more favorable for risks within 0.5 miles. (Oberholzer-Gee and Miki Mitsunari, mimeo 2002) • TRI releases fell by 78.37% from 1988 to 1995. Differences in TRI emissions attributable to variation in stringency of state regulations of TRI emissions shows that states with additional regulations (but no numeric goals) clean up more than states that have no additional TRI type regulations (i.e. states that have only federal level regulation). However states with stringent regulations, with numeric goals for reduction of TRI, don't reduce emissions more rapidly. Evidence is inconclusive on the impact of state regulations on TRI abatement. (Bui, mimeo 2002). • TRI disclosures have a positive impact on company's willingness to disclose environmental information in their 10Ks. Number of companies providing environmental disclosure in 10Ks increased from 99 in 1985 to 110 in 1990. Also the extensiveness of disclosures improved. Companies with worse environmental performance (measured by size-adjusted level of TRI emissions) increased the provision of environmental information more than others. Companies who received negative media coverage may have increased disclosure, but TRI variable alone remains still significant. (Patten, 2002) • Plants that emit TRI-listed substances are in lower income communities; Declines in emissions were not uniform across locations. Larger reductions in higher value regions and in regions with higher initial releases. Economic impact (measured in change in housing values) of initial TRI information is exceedingly low. Even in case of chemicals with strong link to cancer and other diseases, impact is very low. Impact is measured also beyond the zip code where the plant is located, for emissions traveling through air or water, and results are still not significant. (Bui and Mayer, 2003)
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Disclosure System	Information	Embeddedness in Users' Decisions	Embeddedness in Disclosers' Decisions	Summary of effects (intended, unintended)	Literature Review
Workplace Hazards Disclosure	Hazardous chemical information	Workers understanding UNCLEAR Workers self protection UNCLEAR	Employers switched to less hazardous chemicals YES	<p><u>INTENDED</u></p> <p>-workers were able to establish causal links between exposures to chemicals and injuries/illnesses</p> <p>-information available to treat exposed workers</p> <p>-some workers take improved safety measures</p> <p>-employers switched to safer chemicals</p> <p><u>UNINTENDED</u></p> <p>-Workers find safety information too complicated because of language, education level is important</p> <p>-Some workers don't react to the information, lack of choices</p> <p>-Wide differences in implementation across workplaces</p>	<ul style="list-style-type: none"> Joint labor-management training proved effective in improving workers' understanding of safety information. Participants in the special training program perceived the training as helpful, that perception grew overtime. Workers responded they had changed work practices, especially they read labels, were more aware of dangers, avoided hazardous areas and used protective equipment. 54% of supervisors had changed their own practices in response to the training program. 30% of workers reported that working conditions had improved following the training. The program had also increased the level of concern and responsiveness of managers and unions. Joint labor-management training program had positive impact on employees' behavior. More interactive training delivery to smaller groups were key factors for success. (Robins, Hugentobler, Kaminski, and Klitzman, 1990) Out of a sample of 91 union workers from 13 different manufacturing plants and one trade union located in Maryland, 80% of workers had seen MSDS before survey, 45% had been trained on it. 2/3 had requested MSDS. 80% changed behavior in response to MSDSs. 50% of workers reported MSDSs to be helpful. 2/3 found MSDS to be confusing. Education found to have impact on understanding. (ATKerney/Centaur Division study, 1991) For 91 tested workers, 2/3 of info in MSDS is comprehended. 80% of surveyed workers had seen an MSDS before survey, only 45% had seen it during training. 2/3 requested information on the chemicals with which they work, but only, 2/3 of these workers found MSDS they received in response difficult to comprehend. 80% of workers receiving chemical hazard information of any type reported changing behavior, and 50% reported MSDS are helpful in preventing or responding to emergency situation. Workers had troubles understanding difficult vocabulary, and layout of MSDS can be confusing. Differences in educational level important factor impacting understanding. Workers with college education scored higher. (Kolp, Sattler, Blayney, and Sherwood, 1993) Evaluation of 150 MSDS showed 83% of MSDS provided specific chemical names for all the listed ingredients. Of 134 MSDS with identifiable chemical components, 37% reported accurate health effects, 47% were inaccurate and 16% partially accurate. 76% of MSDS had accurate first aid information. 47% of MSDS had accurate information for personal protective measures, 22% had inaccurate information on this topic. 47% had accurate info on exposure limits, 16% had inaccurate values. Only 11% of reviewed MSDS were accurate in all the four dimensions. 51% of MSDS were partially accurate in all 4 areas. (Kolp, Williams, and Burtan, 1995) According to three studies on the comprehensibility of material safety data sheets (MSDSs), workers understand on average 60% of the information reported. A 1990 study by the Printing Industries of America found that employees with 15+ years of education understand only 66.2% of MSDS education. (Hazard Communication, 1997) Evaluation of MSDS understanding gave mixed evidence. Out of a sample of 160 workers (69% with high school education, some with some college education and 95% of sample had undergone training on MSDS) 39% found MSDS difficult, 46% disagreed. 90% of workers said MSDS were satisfactory to very satisfactory in providing information. 3/4 of workers changed work habits following disclosure of MSDSs. But workers' frequency of usage was low: 1/3 used MSDS half/all of the time, the rest rarely to never used them. Workers reported easy access to MSDS. (Phillip, Wallace, Hamilton, Pursley, Petty, and Bayne, 1999)

Disclosure System	Information	Embeddedness in Users' Decisions	Embeddedness in Disclosers' Decisions	Summary of effects (intended, unintended)	Literature Review
Patient Safety Disclosure, New York & Pennsylvania	Ratings of doctors and hospitals for cardiac surgery	WEAK: Patient decisions based on doctor-recommendation, word of mouth, health plan coverage.	VARIABLE: Most doctors and hospitals unaccustomed to tracking safety data and responding to patients' concerns.	<p><u>INTENDED</u> -Some evidence that hospitals improved mortality rates after report cards introduced.</p> <p><u>UNINTENDED</u> -Some hospitals shifted to treating less sick patients, a possible explanation of improved mortality rates. -Patients continued to select hospitals, doctors with less good safety records.</p>	<ul style="list-style-type: none"> • Analysis of New York hospital data suggested that the dissemination of information on surgery outcomes resulted in an improvement of surgery results from 1989 to 1992. Authors found a decrease in the actual mortality rate and an increase in average patient severity of illness. (Hannan et al., 1994) • Evaluation of New York's report cards found predictive accuracy of the disclosure model low, internal inconsistencies in data and mortality rates imperfect metric. (Green and Wintfeld, 1995) • Study found no movement of patients away from hospitals with high mortality rates. Nor did patients move to hospitals with low rates (Chassin et al., 1996) • Survey of cardiologists' and surgeons' opinions on Pennsylvania report cards found large awareness of disclosure system among physicians, however, less than 10% discussed about report cards with more than 10% of their patients. Physicians criticized report cards for absence of quality indicators other than mortality, inadequate risk adjustment, and data unreliability. Cardiologists reported increased difficulties in finding surgeons to treat severely ill patients. Majority of surgeons confirmed they were less willing to operate on such patients. (Schneider and Epstein, 1996) • Patient survey found that 20% of respondents were aware of Pennsylvania's report cards, but only 12% knew about it before surgery. Fewer than 1% knew the correct rating of their surgeon or hospital and reported that information had a moderate or major impact on their selection of provider. (Schneider and Epstein, 1998) • Study of New York report cards found no evidence that provider-profiling limited procedure access for elderly or increased out-of-state transfers. (Peterson et al., 1998) • Hospitals and physicians with better reported outcomes showed higher growth in market share in some geographical areas. Correlation is stronger for surgeons than for hospitals, but it tends to decline over time. (Mukamel and Mushlin, 1998) • Survey of hospitals' CEOs in California and New York found report cards are generally rated as fair or good by hospitals, with respondent in large/high volume hospitals more knowledgeable of cards. Hospitals with higher mortality rates were more critical of report cards. (Romano et al., 1999) • Analysis of empirical evidence on impact of hospital performance data suggested that consumers and purchasers rarely searched out the information and did not understand or trust it. Reporting had small, although increasing, impact on their decision making. Small portion of physicians and larger portion of hospitals used the data. (Marshall et al., 2000) • Literature review found little evidence of report cards' impact on patients' choice of provider or health plan, perhaps due to inability of providers to rapidly respond to shifts in demand, information already incorporated in consumers' choices, and problems with report cards' quality and credibility. (Mukamel and Mushlin, 2001) • Analysis of the impact of report cards on cardiac surgery in New York and Pennsylvania showed evidence of selection behavior by providers, leading to an increase of procedures performed on healthier patients. Sorting among patients caused delays in the execution of surgery. Authors also find increased matching of patients with hospitals, with patients with more severe conditions being treated in higher quality hospitals. (Dranove et al., 2003)

Disclosure System	Information	Embeddedness in Users' Decisions	Embeddedness in Disclosers' Decisions	Summary of effects (intended, unintended)	Literature Review
Workers Notification of Plant Closing	Employer intention to close plant or layoff large number of workers	Third parties organized of communities or workers. NO	Notify communities and workforce early in order to prepare them for major plant closings NO	<p><u>INTENDED</u> -very limited intended effects because many employers fail to notify workers</p> <p><u>UNINTENDED</u> -limited ability to react to shifts even given notification -different protection in unionized vs. non-unionized workplaces -wide disparities across communities</p>	<ul style="list-style-type: none"> • A comparison of Displaced Worker Surveys conducted in 1988, 1990, and 1992 (WARN was implemented in 1989) shows little impact of WARN in workers' notification. Both before and after WARN was passed, there is very limited formal notice (less than 15% of displaced workers reported receiving formal notice). Authors observe a decline in workers receiving informal notice, balanced by an increase in the number of workers receiving no notice at all. Workers displaced because of plant shutdown more likely to receive notice than workers displaced because of layoffs. Workers in areas with lower unemployment rate more likely to receive notice. Overall WARN legislation does not seem to have affected workers' notification trends, this study confirms previous work by authors which used only 1 year post notification data. This can be hardly attributed to employers' ignorance, they often deliberately chose certain firm sizes to avoid compliance with WARN, some sought legal advice before deciding if complying or not. Another reason for limited impact could be that firms with less than 100 employees (35% of workforce at time of study) do not need to comply. (Addison and Blackburn, 1994) • Analysis of Displaced Worker Surveys shows limited impact of WARN in reducing unemployment. Comparison of escape rates from unemployment for notified and non-notified workers for 5 years retrospective 1988 and 1990 Displaced Worker Surveys shows that escape rate is higher for notified workers who passed from one work to the other (0 days unemployed). This could be explained by the fact that notified workers have benefited from an additional period to search for a new job, from notification to displacement. However, considering that on the job search is less productive than off the job and correcting for this difference, the escape rates for notified and non-notified workers become similar. Notified workers conduct less intensive search in notification period than non-notified workers do after leaving their jobs. (Addison and Blackburn, 1997) • Assessing the impact of WARN is difficult because there are problems of data consistency across surveys of recordkeeping. States have no figures on how WARN works and how it is affecting population. Only 2 states had information on replacement wage rates. Not enough data to assess effectiveness of WARN, states should do better recordkeeping. There is no enforcement mechanism, other than law suits by workers, a federal agency monitoring WARN performance and handling enforcement would be appropriate. (Levin-Waldman, 1998) • A GAO's assessment of WARN's implementation found that 2001 there were 1.75 M job losses through extended mass layoffs. In 2001 employers provided notice for an estimated 36% mass layoffs or closures that qualified for WARN (717 out of 1974). Employers provided notice for 46% of plant closures and 26% of mass layoffs. Remaining ones are subject to WARN, but notice was not provided (maybe they provided other-non WARN-notice, or pay en lieu of notice). 2/3 of notices provided were on time. Employers have problems applying WARN because it's hard to calculate the layoff threshold. Courts (only enforcers of WARN, since there is not an enforcement agency) have applied WARN provisions inconsistently, which creates confusion. Educational materials by DOL are not widely available. Problem of lack of DOL guidance. (GAO, 2003)

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The Global Costs of

Although large-scale risks garner media attention, it is the everyday, small-scale risks associated with a lack of transparency in countries' legal, economic, regulatory and governance structures that can confound global investment and commerce. New research identifies the causes and measures the effects of this phenomenon.

**Joel Kurtzman, Glenn Yago
and Triphon Phumiwasana**

Over the years, businesses have evolved a number of innovative ways to manage the risks associated with global operations. They have developed sophisticated ways to insure their infrastructures and their operations and to hedge their currencies. They have learned how to distribute information resources globally, using highly resilient computer networks with geographically dispersed backups. They have put in place sophisticated new internal controls systems to monitor performance and tease out fraud on a global basis. They have developed intricate taxonomies to enable different divisions to rate and communicate their risks in a consistent manner around the world. They have even created a new global role — the chief risk officer — to watch over the company as a whole. And many boards of directors have made risk management one of their top priorities. But despite these initiatives, gaps remain.

Global companies face two distinct types of risks: large-scale, low-frequency risks and small-scale, high-frequency risks. Although the large-scale risks — earthquakes, wars, coup d'états and major acts of terrorism — are front-page news, the small-scale risks — fraudulent transactions, bribery, legal and regulatory complexity, and unenforceable contracts — represent the real costs to business. These risks interfere with commerce, add to costs, slow growth and make the future even more difficult to predict. They also deter investment. “The key to any good investment relationship is clarity — the ability to see, and even be in communication with, what’s really going on. It’s the same whether it’s a company, a country or a region,” said Matt Feshbach, chief investment officer of MLF Investments Inc., a mid-sized hedge fund in Largo, Florida. “If the risk picture is unclear, capital is less likely to go where it’s needed.”

Annually since 2000,¹ we have been studying a variety of countries, seeking to identify their degree of *opacity* — that is, the degree to which they lack clear, accurate, easily discernible and widely accepted practices governing the relationships among businesses, investors and governments that form the basis of most small-scale, high-frequency risks. Greater awareness of the risk factors that may impede commerce can enable companies to make better portfolio and direct investment decisions regarding where to develop markets, locate productive resources or find the best outsource partner and can also help governments understand how to measure their progress and make their countries more attractive locations for investment.

Toward that end, we developed a methodology for projecting what aspects of a country’s economy carry the greatest risk. After talking with companies and financial and economic experts, we discovered that, in any country, small-scale, high-frequency risks fall into one of five broad causal categories (which form the acronym CLEAR): business and government *corruption*, an ineffective *legal system*, deleterious *economic*

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Opacity

policy, inadequate accounting and governance practices and detrimental regulatory structures.

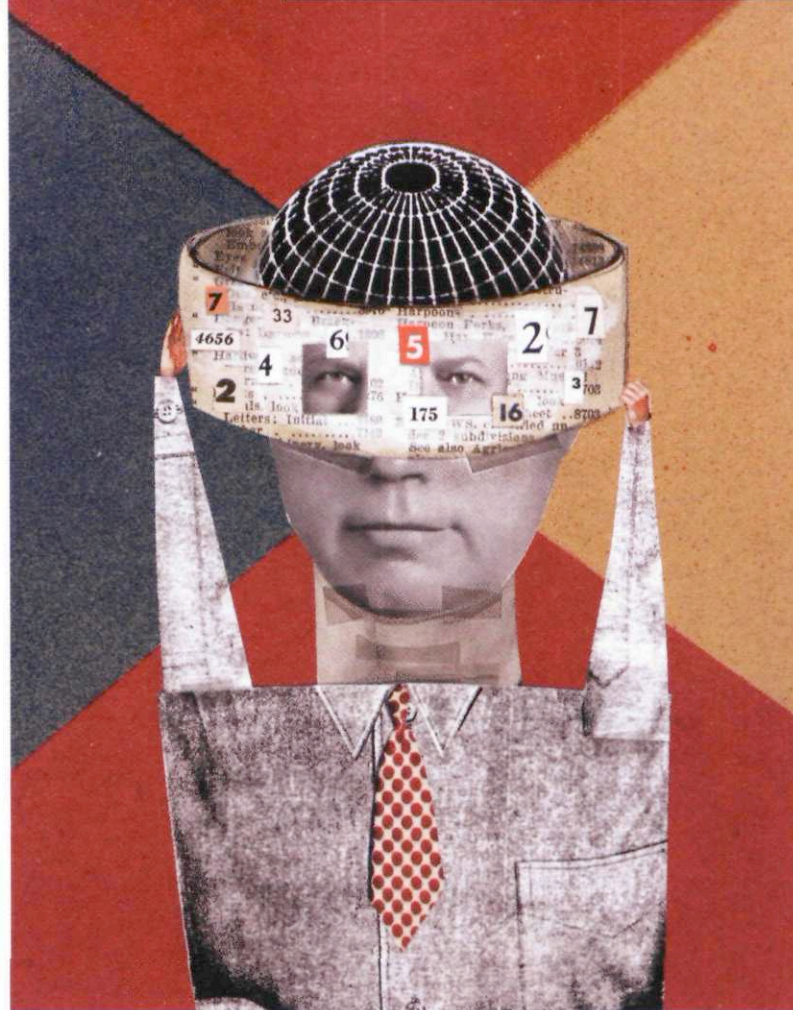
By assessing and comparing the costs of those risks on a country-by-country basis, we create an overall Opacity Index,² in which higher levels of opacity strongly correlate with slower growth and less foreign direct investment in all markets (except China, where the size of its market and labor force attracts large-scale investment despite what appear to be very high levels of risk).

The Opacity Index

The Opacity Index draws upon 65 objective variables from 41 sources including the World Bank, the International Monetary Fund, the International Securities Services Association, the PRS Group (which publishes the *International Country Risk Guide*), the *International Country Risk Guide* and the regulators of individual countries. Considerable effort was made to ensure that the data are directly comparable across the 48 countries studied. (Early attempts to do survey-based research proved less than optimal because many business leaders did not know enough about business practices in other countries to make meaningful comparisons with their own.) An array of data is compiled and ranked for each of the CLEAR factors.

To understand how the Index works and what it measures, consider how the research assesses legal systems. We gathered data from a variety of publicly available sources — such as the *Global Competitiveness Report*, the *International Country Risk Guide* and the *Index of Economic Freedom* — in order to examine a country's overall legal environment and obtain a gauge of how effectively its legal system resolves business disputes and what protections it grants to businesses, investors and other sources of capital. Factors such as whether bankruptcy procedures allow the continued operation of a business, whether shareholders have preemptive rights that can only be waived by a shareholders' vote, the country's degree of judicial independence, its strength of property rights and even the level of religious tension are evaluated and compiled to construct an overall score.

Similarly, we drew on a number of sources to measure and compare the economic risks that challenge businesses and that



summarize the economic costs of doing business in various countries. We examined traditional and nontraditional economic factors such as the influence of organized crime, the cost of terrorism and costs relating to bureaucratic “red tape” and non-transparent taxation systems.

Our examination of regulation, particularly as related to the capital markets, measures how safe it is to provide capital to various countries. We sought to answer two broad questions: (1) Can investors in a given country get a full understanding of the companies in which they invest? And (2) are there mechanisms for settling disputes that arise out of the investment process? In addition to these issues, we were concerned with how well the countries we studied conformed to the robust regulatory practices that are in use in countries like the United Kingdom and the United States, which have very large capital markets that are, for the most part, well run.

To create our assessment of corruption, we compiled data from existing indices, most notably from Transparency International³ and the *International Country Risk Guide*. There is some overlap in the areas of business cost of corruption and that of terrorism, which is included in the category that focuses on economic factors. This inclusion is intentional because firms often do not, perhaps cannot, clearly discern between these costs, as they are often assumed to be necessary in order to operate in a country. To better assess the opacity cost to businesses, corrup-

tion costs need to be taken into account both individually and with other opacity factors, depending on the type of business being considered.

Most of the data we compiled to measure the transparency in countries' accounting practices take the form of yes or no answers to questions such as: Does the country require an independent audit by an external auditor? Are there annual banking inspections? Are a country's accounting standards in accord with international standards? Comparing a country's data to various benchmarks and standards established around the world yields an overall understanding of whether the finances of companies in that country can be viewed with confidence by those outside the company.

After having collected and compiled data in all the above-mentioned categories,⁴ we calculated five subindices for each country under examination, one subindex for each CLEAR factor, using simple averages. A country's final score is the simple average of the five subindices. (See "The Opacity Index.") We believe these scores are a reliable reflection of each country's everyday business risks. Further, each individual subindex score allows companies to assess where those risks are most prevalent — in the country's legal system, its economy, its accounting standards, its regulation policy or its vulnerability to corruption.

To put these risks into business terms, each final score is associated with an opacity risk premium (or discount), which is expressed as an interest-rate equivalent. (For purposes of this

The Opacity Index

To create a country-by-country ranking of opacity — the degree to which there is a lack of clear, accurate, easily discernible and widely accepted practices governing the relationships among businesses, investors and governments — the Opacity Index draws upon 65 objective variables from 41 sources compared across 48 countries. Each component of opacity — corruption (C), efficacy of the legal system (L), deleterious economic policy (E), inadequate accounting and governance practices (A) and detrimental regulatory structures (R) — is rated separately, and the component ratings contribute to an overall opacity rating. (The column farthest to the right indicates the interest-rate premium or discount derived from doing business in a given country as compared to doing business in the United States.)

Country	Category					OPACITY RATING	Opacity Premium/Discount (%)
	C	L	E	A	R		
Finland	3	11	23	17	9	13	-1.83
United Kingdom	20	3	25	33	13	19	-0.44
Denmark	6	15	21	33	19	19	-0.44
Sweden	8	24	21	25	19	19	-0.31
Hong Kong	26	12	14	33	15	20	-0.21
United States	28	19	27	20	10	21	0.00
Australia	19	16	26	33	10	21	0.00
Switzerland	20	27	20	25	21	23	0.40
Austria	21	11	32	33	17	23	0.42
Belgium	28	25	30	17	14	23	0.42
Canada	26	17	37	20	16	23	0.48
Singapore	15	19	25	50	10	24	0.65
Netherlands	16	21	22	38	23	24	0.67
Germany	28	14	33	17	32	25	0.86
Ireland	33	19	29	38	9	26	1.03
Japan	38	24	31	22	22	28	1.51
Chile	41	24	30	20	27	29	1.71
Israel	33	30	44	20	25	30	2.09
Taiwan	47	33	20	40	28	34	2.83
South Africa	55	34	28	33	18	34	2.85

study, the opacity risk premium/discount⁵ is calculated by taking the numerical difference in opacity between the subject country and the United States and multiplying it by 0.2213.) This means in practice that if a U.S. investor wants to do business in France, he needs to receive a return 3.53% greater than in the United States to offset the risk. If he wants to do business in China, he needs to receive a return 6.49% greater. If an investor wants to do business in Finland, she could actually receive a smaller rate of return than in the United States and still justify the investment.

Correlating Opacity With Other Indicators

We correlated the Opacity Index with various other indicators to check its efficacy. For example, because opacity impedes the

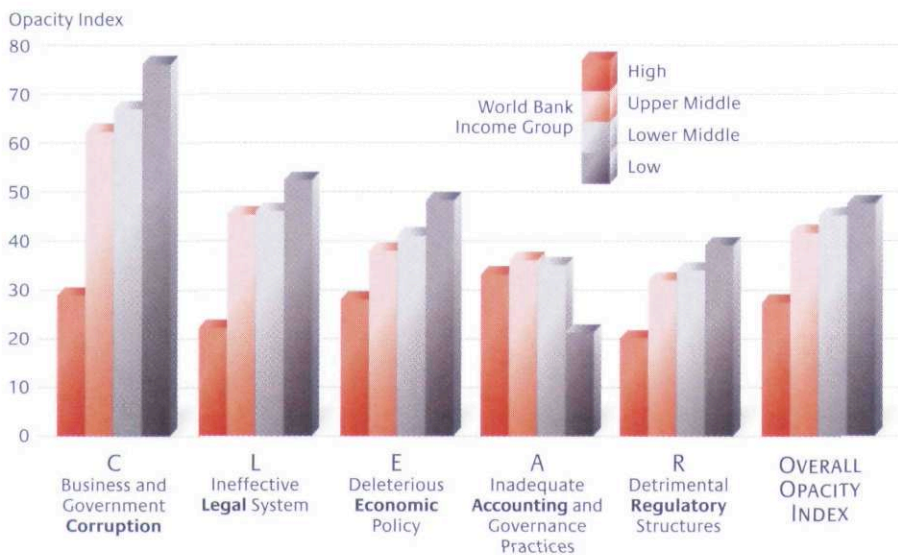
development and efficient functioning of a financial system — the markets as well as business processes and operations — one would expect to find highly opaque countries among the countries that are least developed and *least able to develop*. What's more, opaque countries should be among the slower-growing countries in the developed world.

Income To test these relationships, we looked for consistent differences between the average Opacity Index and individual scores among the four World Bank income groups. (See “Average Scores by World Bank Income Group,” p. 42.) We found that, as income decreases, opacity increases for each factor except accounting. The accounting exception is probably

Country	Category					OPACITY RATING	Opacity Premium/Discount (%)
	C	L	E	A	R		
Spain	39	25	32	50	23	34	2.86
Malaysia	55	35	28	30	26	35	3.08
Thailand	72	33	29	20	21	35	3.11
Portugal	37	26	31	50	32	35	3.22
Hungary	51	31	26	50	24	36	3.40
Korea	61	35	22	30	37	37	3.52
France	39	47	33	33	32	37	3.53
Brazil	47	48	32	40	35	40	4.29
Poland	63	35	47	40	19	41	4.43
Greece	58	30	36	50	30	41	4.43
Czech Republic	61	35	32	44	35	41	4.56
Ecuador	64	60	34	25	29	42	4.78
Colombia	57	61	45	29	21	43	4.81
Italy	52	32	45	63	24	43	4.94
Turkey	67	41	27	44	36	43	4.95
Mexico	65	60	35	33	25	44	5.01
Argentina	65	64	33	30	27	44	5.06
Pakistan	75	49	47	33	22	45	5.35
Saudi Arabia	61	34	32	33	69	46	5.52
Russia	78	44	39	40	31	46	5.64
Egypt	71	37	39	40	51	48	5.91
India	74	44	49	30	46	48	6.09
Nigeria	80	65	48	0	50	49	6.12
China	74	39	39	56	43	50	6.49
Philippines	75	56	52	33	36	50	6.51
Venezuela	75	68	49	30	30	51	6.56
Lebanon	83	60	65	44	42	59	8.47
Indonesia	82	54	90	22	49	59	8.54

Average Scores by World Bank Income Group

When the countries studied are broken down into the four World Bank income groups, group opacity for each component increases as group income decreases. The sole exception is accounting, because most lower-income countries adopt international accounting standards, possibly to counter high opacity in other components.



because lower-income countries tend to more uniformly adopt international accounting standards, possibly to counter high opacity in other factors.

Economic Development and Foreign Investment Our analysis shows that real gross domestic product per capita, a common measure of economic development, is lower in countries with higher levels of opacity and is higher in countries with lower levels of opacity. (See “Opacity Vs. Economic Development.”) We estimate that per capita income decreases by \$986 for every one-point increase in the Opacity Index.⁶ This suggests a strong association between prosperity and the lessened risk levels that come from transparent processes in each of the five areas we studied. It further suggests that opacity acts as a brake on the pace of economic development.

Opacity can affect economic development indirectly by deterring foreign direct investment. Since FDI is an amalgamation of stable investment funds, advanced technology, efficient managerial skills and easier access to the world market, it has a positive impact on economic growth and development. Opacity also has a negative and significant impact on FDI as a percentage of GDP. (See “Opacity Vs. Foreign Direct Investment.”) In the majority of cases, most foreign direct investments go to countries with relatively transparent financial and economic systems. In the case of China, which has high levels of opacity and high levels of economic development, the simple lure of China’s “bigness” has tended to make it the recipient of greater levels of FDI than

would otherwise be warranted. However, the results of this study indicate that if China were to become more transparent, the amount of FDI would likely increase.

Entrepreneurship and Access to Capital

Transparency in countries’ financial and economic environments enhances the predictability of business conditions, which in turn promotes increased entrepreneurial activity. Opacity is not only a deterrent to economic development, it also decreases the ability of entrepreneurs to access capital. According to the World Bank Group’s Doing Business Database, transparency is an important indicator of the cost of starting a business and is the main factor that could enhance or constrain business investment, productivity and growth.

Opacity can starve a project of funding in many ways. By definition, opaque systems create information asymmetries between lenders and borrowers (that is, information known to some participants but not all), adding complexity and an additional burden to lenders’ expectations of return on investment. Opacity also increases the ranges of possible projected cash flows from risky projects, resulting in lower expected present values. This decreasing of expected discounted returns may ultimately result in the rejection of some projects that have strong potential but appear, because of opaque conditions, to be poor investments.

The annually produced Milken Institute Capital Access Index ranks countries on the basis of entrepreneurs’ access to capital and is based on variables that measure such market features as liquidity, interest rate volatility and the risk of expropriation. To the extent that opacity adversely affects the development and efficiency of financial markets, one would expect the Opacity Index and Capital Access Index to be significantly and negatively correlated, as they clearly are. (See “Opacity Vs. Capital Access Index.”)

Lending and Equity Markets A country’s financial system is in many ways its most important intangible asset. The institutional capacity to generate and pool savings and invest that capital on projects and enterprises that will maximize a country’s material well-being is critical. To the extent that the size of a country’s financial system is closely related to its entrepreneurs’ ability to access capital,⁷ one would further expect to find a sig-

nificantly negative correlation between opacity and the depth and breadth of the financial system as measured by the number, types and capitalization of financial institutions, capital markets and financial instruments and their liquidity. This clearly is the case.

Our analysis shows that opacity correlates negatively with the size of a country's banking system relative to its GDP. (See "Opacity Index Vs. Bank Assets.") Opacity increases asymmetric information problems for banks, raising agency costs and perhaps the likelihood and costs of debtor defaults. The Opacity Index also shows a statistically significant and negative correlation with stock market capitalization and trading volume relative to GDP. (See "Opacity Vs. Size of Equity Market" and "Opacity Vs. Trading of Equity Market.") Opacity can lead to wider bid-offer spreads and hence to less liquid and less efficient financial markets. Additionally, it can mask the underlying fundamentals of investments and thereby make investment in an opaque country less attractive. This in turn generates an opacity-related risk premium for that country's firms when they raise capital.

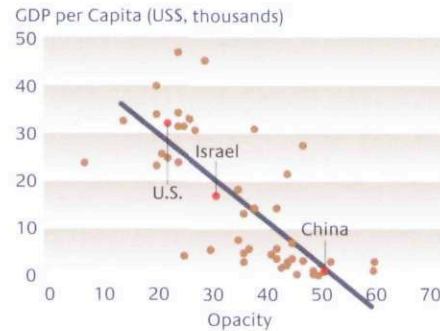
Since financial institutions and financial markets are critical to the infrastructure of investment flows within countries and to those countries' ability to build a broad-based business community, these findings strongly suggest that increased transparency of a country's critical financial factors would be a stimulus to its business creation, industrial expansion and economic growth.

Countries that ignore their Opacity Index scores could face lagging rates of growth over the long haul. (See "The Negative

How Opacity Correlates With Other Indicators

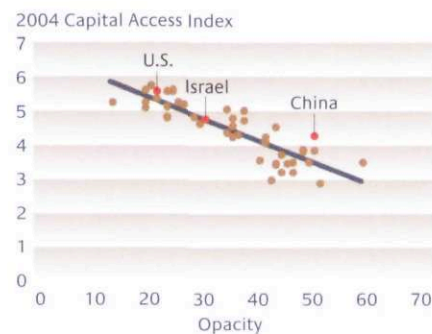
OPACITY VS. ECONOMIC DEVELOPMENT

For every one-point increase in the Opacity Index, GDP per capita decreases by \$986.



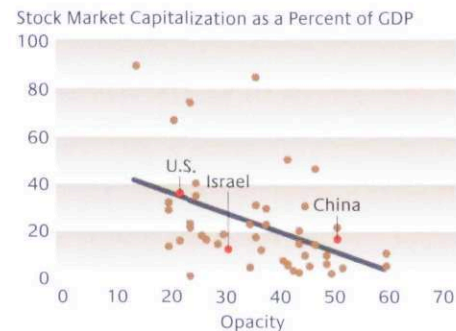
OPACITY VS. CAPITAL ACCESS INDEX

For every one-point increase in the Opacity Index, the Capital Access Index decreases by 0.06 points.



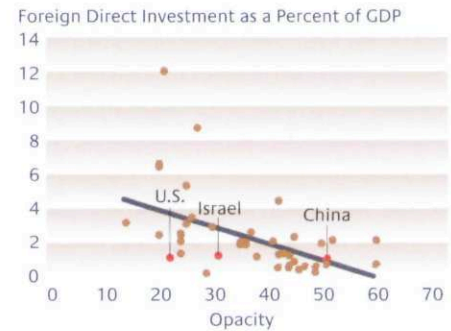
OPACITY VS. SIZE OF EQUITY MARKET

For every one-point increase in the Opacity Index, stock market capitalization decreases by 0.9%.



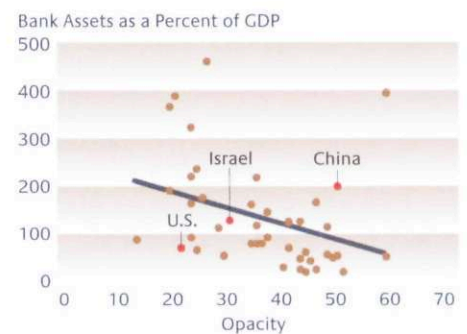
OPACITY VS. FOREIGN DIRECT INVESTMENT

For every one-point increase in the Opacity Index, FDI as a percent of GDP decreases by 1%.



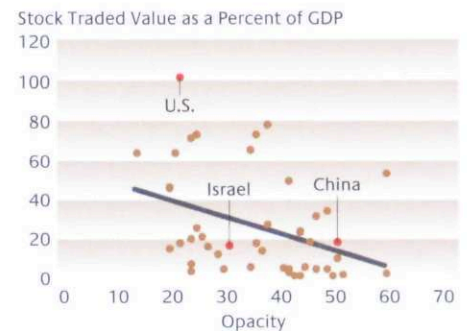
OPACITY INDEX VS. BANK ASSETS

For every one-point increase in the Opacity Index, bank assets as a percent of GDP decrease by 4%.



OPACITY VS. TRADING OF EQUITY MARKET

For every one-point increase in the Opacity Index, stock traded value as percent of GDP decreases by 0.9%.



Impact of Opacity," p. 44.) One only has to consider the difference between the development of Finland and the former Soviet Union after the end of the Cold War. Both countries were poor but had invested heavily in education, and both had abundant natural

The Negative Impact of Opacity

Based upon simple regression analysis, every one-point increase in a country's Opacity Index correlates to a:

- 5986 decrease in its per capita income
- 1% decrease in its net foreign direct investment as a percentage of GDP
- 0.06-point decrease in its Capital Access Index
- 4% decrease in its bank assets as a percentage of GDP
- 0.9% decrease in its stock market capitalization as a percentage of GDP
- 0.9% decrease in its stock market traded value as a percentage of GDP
- 57-basis point increase in its average borrowing interest rate
- 0.46% increase in its inflation rate

resources. Russian capitalism developed with a poorly functioning regulatory structure for its businesses, few real legal protections, a vague set of laws governing such things as property rights and very high levels of corruption and crime. Finland, on the other hand, emphasized the creation of strong institutions, regulatory structures and laws and has almost no corruption. The result? Finland now has one of the most vibrant economies in the world and is ranked No. 1, according to the World Economic Forum's *Global Competitiveness Report 2003–2004*. Russia, by contrast, is ranked as the world's 58th most competitive country.

The Company-Level View

Opacity's correlation with slow growth, lackluster foreign direct investment, flagging equity markets and a host of other woes has obvious implications for global companies. Managers need to make decisions based on more than the size of a country's market and the price of its labor; they need to take into account how a country's economy works. Businesses that do not pay attention to a country's level of opacity could find that they are making long-term decisions based on unrealistic estimates of risk and return.

Companies must understand in very quantifiable terms the cost of doing business in high-opacity countries. Doing business in Mexico, for example, which has an opacity score of 44, requires a return of 5.01% above the U.S. rate of return in order to offset a company's risk. Doing business in China, with a score of 51, requires a premium of 6.49% to offset its risk. What this means to managers is that in some instances, China, even with its low wage rates, may be a less attractive place to do business than Mexico once the opacity risks are factored in.

A look at the individual CLEAR factors can inform even finer-grained managerial decisions since the causes of opacity

might be quite different even for countries with the same overall Opacity Index rating. If managers have a choice of where to locate a regional headquarters, for example, they might choose a country that scores higher on the legal and economic subindices. If they want to build a new plant, they may care more about the corruption subindex. If they are considering a joint venture with another company, the legal subindex will indicate those locales in which the provisions of a joint venture contract will be best enforced.

This is not to suggest that businesses should avoid high-opacity countries. Indeed, in some areas of commerce such as mineral extraction and oil production, to do so would be difficult since many countries with rich natural resources have high opacity scores. Instead, businesses can use the Index to prudently measure their risks and to

create mechanisms to protect themselves against those risks.

In the final analysis, the Opacity Index illustrates why it is in everyone's interest for companies and countries to work together to bring down opacity scores: Businesses can become fully global in a prudent way, and countries can attract their fair share of inbound investment for growth and development.

REFERENCES

1. The Opacity Index was initially launched in late 2000 by a joint effort of PricewaterhouseCoopers and the Milken Institute. By the first quarter of 2001, the first Opacity Index based on survey responses from corporate leaders, banking executives, equity analysts and in-country staff of PricewaterhouseCoopers was compiled and released to the public. The objective was to look beyond corruption alone in order to examine other aspects of business practice that raises costs of business and capital, inhibiting economic growth.
2. For a partial reference list of work we reviewed when constructing the Opacity Index, see <http://www.milkeninstitute.org/publications/publications.taf?function=list&cat=Arts>.
3. For more detail, see <http://www.transparency.org/cpi/index.html>.
4. For a complete list of questions addressed and the types and sources of data compiled in each CLEAR category, see <http://www.milkeninstitute.org/publications/publications.taf?function=list&cat=Arts>.
5. The opacity premium or discount calculation is based on estimated parameters of an augmented Fisher equation. For technical details, see <http://www.milkeninstitute.org/publications/publications.taf?function=list&cat=Arts>.
6. Per capita income in our sample countries ranges from \$46,553 to \$248. Average income of the sample is \$15,278.
7. In fact, variables relating to the size, liquidity and degree of development of a country's capital markets are used in part to calculate its Capital Access Index score.

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Democracy and the Supply of Transparency*

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Abstract

Voters demand the information necessary to adequately monitor their elected officials. This article studies the conditions under which transparency enhancing institutions are supplied by policymakers; it determines when transparency is incentive compatible for executives. Those executives more accountable to the voters, and more susceptible to eviction from office in periods of poor aggregate economic performance will opt for greater transparency (trading away rent-extracting opportunities), and create devices for better monitoring of their own performance. The model separates out the often conflated notions of democracy, transparency, tenure and corruption, and generates three claims that are empirically tested: democracies are more likely to be transparent; tenure in office of policymakers falls with the degree of electoral accountability, but rises with the degree of transparency; and corruption falls with both transparency and accountability, each with separate effects.

Transparency has become, in the minds of many, a prerequisite for, if not synonymous with, democracy. If the society at large is unable to observe or monitor the behavior of policymakers, those policymakers may adopt policies that are not in the general interest. A policymaker may find it possible to create and distribute rents to the benefit of his (rarely, her) family, cronies and supporters and himself, and at the cost of the welfare of the broader community. Policymaking ceases to be responsive to the will of the “people” when policies are made in the smoke-filled back rooms, far from the cleansing bright light of scrutiny.¹

Rent seeking and resource dissipating activities are a subversion of the will of the voters, facilitated by obscure policymaking processes. Transparency, on the other hand limits rent creation and diversion by forcing democratically elected policymakers to be accountable to the electorate at large. Elected officials that routinely divert resources to their own ends, and are observed to do so, will be removed from office by the electorate. Elections act as disciplining devices in the presence of information about policymaker behavior.

Transparency then, is demanded by the voters - without it elected officials, fearing less that they will be evicted from office will more freely shirk their obligations.

But demand is only one side of the story. If transparency is to be provided - we must consider the incentives of policymakers to provide it. Transparency requires the willingness of the political elite to be subject to the scrutiny of the voters. Transparency requires constitutions to protect the freedom to obtain information, it requires information generating agencies to be set up, it requires that the executives limit their use of the power of the state to hide their activities. In the language of game theory, the decision to provide information, to permit transparency in policy-

making, must be incentive compatible.

Polities are rarely created *de novo*. There is rarely a “constitutional moment” where new institutions are created behind the Rawlsian veil - where the designers of the new institutions are not aware as to whether they will govern or be governed. Of course if a constitutional designer knew they were likely to be in government, they may prefer to design fewer monitoring institutions, permitting more opportunities for rent extraction. Democracies instead *emerge*, they develop norms, practices and institutions incrementally, including the capacity to be transparent. Moreover these institutions of transparency emerge with the consent, not only of the governed, but necessarily with the consent of the governors. Hence we must ask: When will policymakers adopt mechanisms for transparent policymaking?²

This article studies the conditions under which transparency is incentive compatible for executives. Those executives more accountable to the voters, and more susceptible to eviction from office in periods of poor aggregate economic performance will opt for greater transparency, and create devices for better monitoring of their own performance. Democratic polities in which the executives are subject to recall at regular intervals via the electoral process are predicted to be more transparent. Less accountable executives are relatively unlikely to adopt transparent practices in the policymaking process; autocratic executives are not sensitive to the interests of the electorate, and can weather periods of poor economic conditions without risk of eviction.³

This article also attempts to separate out the effects of transparency and accountability on two other features of the polity. The focus here is on the level of perceived corruption and the tenure of policy-makers in office. Both transparency

and accountability are shown to have independent effects on the level of corruption - more democracy lowers corruption, but more accountability lowers it even further. The ability of policy-makers to hold onto office is expected to decline as the polity becomes more democratic - autocrats are often long-lived, while democrats hope to survive through the next election. Policy-makers are predicted to be better able to hold on to office, the more transparent is the policymaking process.

In the model that follows, policymaking takes place in the presence of uncertainty. Policies are chosen ahead of elections, and policymakers will be unsure of the aggregate state of the economy at the time of the election. The electorate observes their own welfare, but is unable to differentiate the effects of aggregate economic conditions (which are exogenous) from the policies adopted by the executive (endogenous). If the economy happens to be in a good state, and the executive has not been too extractive, the voters will observe bulging pocketbooks and be likely to vote to reelect the incumbent. If on the other hand, aggregate conditions are poor, and even if the executive has not been excessively extractive, the voters may choose to evict the incumbent. The executive has, to some degree in this instance, been “unfairly” evicted from office - extraction was modest, but exogenous conditions conspired against the executive.

Clearly, executives with a greater degree of sensitivity to the electorate have more to fear from this possibility of unfair eviction. Those executives less accountable to the electorate (less democratic) will be inclined to extract more and worry less about eviction.

On the other hand, if policymaking is transparent, and voters can better separate the shocks from the policy, and voters are less likely to punish executives when

aggregate conditions are poor, and will instead only punish extractive behavior. An elected politician may choose to relinquish some opportunities for extraction, in exchange for eliminating the risk associated with being unfairly dismissed. Hence, we would expect to see those politicians more sensitive to the will of the electorate more likely to adopt transparent modes of policymaking in order to enhance the possibility of remaining in office.

Since policymakers are lowering their extraction to increase their tenure in office when the polity is more transparent, we expect to find lowered measures of corruption and longer tenures in office in transparent polities.

This yields three predictions we subject to empirical test:

1. Democracies are more likely to be transparent;
2. Tenure in office of policymakers falls with the degree of electoral accountability, but rises with the degree of transparency;
3. Corruption falls with both transparency and accountability, each with separate effects.

Model

Following Persson, Roland and Tabellini (1997) and Ferejohn (1986), we consider a polity in which the voters consume a public good each period, c_t produced by

$$c_t = \theta_t (1 - x_t)$$

where $\theta_t > 0$ is a random variable, iid each period, and x_t is chosen by the executive, with larger values of x_t standing for larger diversion of public resources to the benefit of the executive.⁴ This variable captures the conflict of interest between the executive and the voters - the capacity to use the power of the state (and the desire of the voters for public goods) to extract and divert resources to its own ends. Key to this formulation is an upper bound $x_t = 1$ on the degree of diversion possible in any period. The parameter θ_t represents aggregate economic conditions, or perhaps the availability of resources for the production of public goods.

Each of a large number of identical voters maximizes

$$E \sum_{t=0}^{\infty} \delta^t u(c_t)$$

where $\delta \in (0, 1)$ is the standard discount factor and $u(\cdot)$ has the standard properties of utility functions. The executive maximizes

$$E \sum_{t=0}^{\infty} \delta^t v(x_t)$$

with v rising at a decreasing rate with x_t . E is the expectations operator.

Non-transparency

In each period t , the executive chooses x_t , and then nature picks a value of shock, θ_t . Voters observe $u(c_t)$ - they observe neither the shock θ_t nor the policy chosen x_t - the policy choice is *not transparent* to the voters. Then an election is held in which the voters choose whether or not to reappoint the executive.⁵ The executive must

commit to a policy choice while imperfectly informed about the aggregate economic conditions that will prevail at the moment the voters cast their ballots.

An executive thrown out of office is never reappointed, and the opponent is identical in all respects to the incumbent. The election then is a device to punish or reward an executive on the basis of their past behavior - voters will adopt a retrospective voting rule⁶. Since executives are in all ways identical, elections do not serve to choose amongst executives with differing levels of competence.⁷

An action for the executive in period t is $x_t \in [0, 1]$. If $x_t = 1$, we say that the executive has chosen the “Leviathan” action in that period. Voters will choose a threshold U_t , and will vote to reelect the incumbent if $u(c_t) \geq U_t$, and eject the incumbent otherwise. With some minor abuse of notation, we sometimes refer to $u(c_t)$ as $u(x_t, \theta_t)$.

Given that the executive must choose a policy x_t before the uncertainty is resolved (i.e. before θ_t is known), define the ex ante probability that any threshold U_t is breached by policy x_t as

$$\phi(x_t, U_t) = \Pr \{u(x_t, \theta_t) \geq U_t\}. \quad (1)$$

Assumption: $\phi(1, U) = 0$ for all U .

If the executive chooses the Leviathan action in any period, and maximally extracts, the distribution of the random shock is such that the threshold is never breached, and the voters do not vote to re-elect the incumbent with certainty.

Notice that the executive must commit to a policy before the shock has materialized. In the instance of an adverse shock, say, the voters (who, in a non-transparent

environment, cannot separate out the effects of an adverse shock and extractive behavior of the government) experience a low level of utility in that period. Voters will, following their re-election rule, vote to eject the incumbent. Notice that if the shock is adverse enough, voters reject the executive, even in the instance where the policymaker has not been too extractive. The non-transparent environment has the consequence that policymakers risk eviction from office every period - voters may reject an incumbent for reasons that are beyond the incumbent's control.

Regime Type

An election is a determination by the voters as to whether the incumbent should remain in office or be evicted. As to whether the executive actually stays in office or is removed depends on the degree to which the election binds on the executive. Or alternatively, on how accountable the executive is to the will of the voters. As in Mansfield et al (2002), our measure of “democracy” captures the degree to which the will of the voters binds the executive. The more democratic is a polity, the more the election determines whether the incumbent retains office. An election in which the outcome perfectly binds the executive we describe as a “pure democracy”; one in which the will of the voters is irrelevant in determining who holds office is described as a “pure autocracy”.

We characterize each polity by a scalar $\sigma \in [0, 1]$ which captures the degree to which the sentiments of the voters are binding on the executive. If the voters' will is always honored, we have $\sigma = 1$; a pure autocracy has $\sigma = 0$; we permit a continuous measure of the degree to which the executive is accountable to the voters. Then the actual probability of keeping office in any period t , after both x_t and U_t have been

chosen is

$$\rho(x_t, U_t, \sigma) = \sigma\phi(x_t, U_t) + (1 - \sigma) \quad (2)$$

The Executive's Problem

The executive must choose a policy x_t each period that just balances the benefits of extracting this period, with the reduced probability of being in office and able to extract tomorrow. The threat of eviction acts to reduce the level of extraction today. We can write the (expected) value function associated with the executive's problem as

$$V(x_t, U_t) = v(x_t) + \delta\rho(x_t, U_t, \sigma)V(x_{t+1}, U_{t+1}) \quad (3)$$

where $V(x_{t+1}, U_{t+1})$ represents the continuation value in equilibrium for the executive if s/he is reappointed.

The executive takes the future value of the game as parametric (the shocks are iid); a higher level of extraction raises current period returns (raises $v(x_t)$) but reduces the probability that the incumbent is reappointed (reduces $\rho(x_t, U_t, \sigma)$). Substituting equation (2) into equation (3) and suppressing the time subscript, we have

$$\frac{\partial V}{\partial x} = v_x + \delta\sigma\phi_x V = 0 \quad (4)$$

Equation (3) also implies that in equilibrium, where the pair of actions are (x, U) every period,

$$V(x, U) = \frac{v(x)}{1 - \delta[\sigma\phi(x, U) + (1 - \sigma)]} \quad (5)$$

After substituting equation (5) into equation (4), the best response policy $\tilde{x}(U; \sigma)$

satisfies

$$v_x(1 - \delta[\sigma\phi(\tilde{x}, U) + (1 - \sigma)]) + \delta\sigma\phi_x v(\tilde{x}) = 0 \quad (6)$$

While \tilde{x} balances the marginal benefit of extraction with the reduction in reappointment probability, the executive has another possible action available: the Leviathan action. The executive can choose to maximally extract, and incur the wrath of the voters. There is still, however, some probability that the Leviathan executive is reappointed, despite the will of the voters whenever the polity is not a pure democracy. The probability of reappointment when the Leviathan action is taken is $\rho(1, U, \sigma) = \sigma\phi(1, U) + (1 - \sigma) = 1 - \sigma$ from the assumption above.

The value function of the Leviathan action each period is therefore

$$V(1, U) = v(1) + \delta(1 - \sigma)V(1, U).$$

The executive can guarantee, in expected value, a minimum intertemporal value (by taking the Leviathan action each period) of

$$V(1, U) = \frac{v(1)}{1 - \delta(1 - \sigma)} \text{ for all } U.$$

In response to any choice of the threshold level U , the executive can play $\tilde{x}(U; \sigma)$, or the executive can play the Leviathan action 1. For any threshold U , then, the best response for the executive is (from equation (5))

$$x^*(U; \sigma) = \begin{cases} \tilde{x}(U; \sigma) & \text{if } V(\tilde{x}(U; \sigma), U) \geq V(1, U) \\ 1 & \text{otherwise.} \end{cases} \quad (7)$$

The optimal strategy for the executive then is to play $\tilde{x}(U; \sigma)$ if the intertemporal value of moderating his/her extraction is larger than that of the Leviathan action.

There is a particular value of the threshold such that $V(\tilde{x}(U; \sigma), U) = V(1, U)$; define this value as $\bar{U}(\sigma)$. Lemma 2 in the appendix establishes that $\tilde{x}(U; \sigma)$ falls with U . Together, it is clear that if the voters choose a low threshold $U \leq \bar{U}(\sigma)$, the executive can play the moderate strategy and extract a larger amount and do better than if s/he played the Leviathan strategy. On the other hand, the voters choose a high $U > \bar{U}(\sigma)$, the executive is likely to be booted out of office even with a low level of extraction, hence s/he plays the Leviathan action. Figure 1 shows the best response declining with the threshold up until $\bar{U}(\sigma)$; then the executive switches to the Leviathan $x = 1$. Figure 2 shows how the moderate strategy yields an expected return larger than $V(1, U)$ whenever $U \leq \bar{U}(\sigma)$. When $U > \bar{U}(\sigma)$, the executive switches and $V = V(1, U)$.

FIGURES 1 AND 2 HERE

The voters' problem

We assume, as in Persson et al (1997) that the voters coordinate on the same re-election rule. We also restrict attention to sequentially rational equilibria in which players condition their (pure strategy) behavior on the observables of the current period, and not in any previous period. The observable here is the utility experienced at the end of the period, at the time of the election. Voters then condition their re-election rule on their observed utility.

Voters utility falls as x rises. Hence the voters will adopt the threshold that yields the lowest possible value of x in response. Inspection of Figure 1 makes it

clear that voters choose $\bar{U}(\sigma)$ every period.

Lemma 1 *For any polity σ , in a non-transparent environment, the Nash equilibrium (U^O, x^O) to this game is: $U^O = \bar{U}(\sigma)$ for all x , and $x^O = \begin{cases} \tilde{x}(U; \sigma) & \text{if } U \leq \bar{U}(\sigma) \\ 1 & \text{otherwise.} \end{cases}$*

All proofs are in the Appendix. In this non-transparent environment, along the equilibrium path, the voters choose their cutoff level of utility $\bar{U}(\sigma)$, and the executive responds with $\tilde{x}(\bar{U}(\sigma); \sigma)$. If the shock that materializes is very low, voters are unlikely to achieve the cutoff level, even when the executive is playing his/her best response. Along the equilibrium path, therefore, the executive faces a non-zero probability of being evicted from office in any period. Notice that such an eviction can occur, even when the executive is playing the moderate $\tilde{x}(U; \sigma)$ action as opposed to the maximally extractive Leviathan action. The lack of transparency leads to the possibility of “unfair” eviction in any period, which occurs with probability $1 - \rho(\tilde{x}(\bar{U}(\sigma); \sigma), \bar{U}(\sigma), \sigma) > 0$.

Proposition 2 *For any polity $\sigma > 0$, in the non-transparent environment, there is a non-zero probability of eviction along the equilibrium path.*

Democracy and Extraction

Does more democracy mean less rent extraction in this non-transparent environment? The answer is yes. In the next section, however, we will also show that transparency reduces the level of rent extraction at given levels of democracy.

Proposition 3 *In a non-transparent polity, along the equilibrium path, extraction falls with democracy, i.e. $\frac{d}{d\sigma} \tilde{x}(\bar{U}(\sigma); \sigma) < 0$*

As democracy rises, the threshold chosen by the voters rises - the voters can exert a greater level of control over the executive. The best response to this higher threshold is to lower the level of extraction in order to compensate for the lower probability of reelection implied by the higher threshold.

Mediated Transparency

In this environment, we permit the policymaker to make a promise, x^P . While the actual policy x_t remains unobservable to the voters, we now admit the presence of monitoring institutions. These include other branches of government, an independent press, specialized agencies. One or more of these agencies report to the public if indeed $x_t \leq x^P$; they alert the public if the policymaker has violated their promise if $x_t > x^P$.

Voters now condition on the announcement⁸. If $x^P \leq \tilde{x}(U(\sigma), \sigma)$, then they will reelect if $x_t \leq x^P$; they evict otherwise. The returns to the policymaker of choosing x^P each period are $\frac{v(x^P)}{1-\delta}$ (see Lemma 4 in the Appendix for the proof that these strategies are a Nash equilibrium). Define the difference between the returns to the policy maker under mediated transparency and the returns under non transparency as

$$\Delta = \frac{v(x^P)}{1-\delta} - \frac{v(1)}{1-\delta(1-\sigma)}$$

Proposition 4 *Mediated transparency is preferred to non-transparency by both players when the polity is sufficiently democratic.*

The proof in the Appendix establishes that $\Delta > 0$ whenever $\sigma > \bar{\sigma}(\delta) \equiv \frac{1-\delta}{\delta} \frac{v(1)-1}{v(x^P)}$. For any discount factor, the larger is σ the smaller are the returns from

the Leviathan action - a greater chance of eviction. For large enough values of σ , $\Delta > 0$.

FIGURE 3 HERE

Figure 3 shows the parameter space: for a given discount rate, the democratic policymaker is more likely to prefer the mediated transparency environment to the non-transparent environment. The key here is that the executive trades away some of the opportunities for extraction - (or more precisely trades away the extraction that would occur in some periods) for the certainty of not being thrown out of office in periods of bad economic conditions. The corollary is that dissipation is lower:

Corollary 5 *Dissipation is lower under mediated transparency than under non-transparency.*

Of course the voters prefer mediated transparency: less extraction occurs in each period, increasing the welfare of the voting public.

Empirical Predictions

The model above makes three predictions:

1. Democratic executives supply more transparency (and since and the voters always demand more transparency), so *transparency rises with democracy*.
2. Executives trade away opportunities for extraction in exchange for a longer tenure in office. Hence, *tenure in office rises with transparency (and falls with democracy)*.

3. As executives trade away opportunities for extraction, we expect to find *corruption is reduced by both democracy and transparency*.

We report below the results of three sets of regressions, each of which addresses one of these empirical predictions.

Data

To measure σ , a state's polity in the model above, a number of indexes are available. Key to the insights developed above, the aspect of the polity that is relevant is the accountability of the policymakers to the electorate. For this reason, I use the Polity IV measure (Marshall and Jaggers 2000), which captures the institutional elements of interest across countries. It combines data on five dimensions - the competitiveness of the process for selecting a country's chief executive, the openness of this process, the extent to which institutional constraints limit a chief executive's decision making authority, the competitiveness of political participation within the country and the degree to which binding rules govern political participation within the country. Polity IV creates a 21 point scale ranging from -10 to 10, with larger values of *Polity* referring to more democratic polities.

This index captures the institutional structure of governing; it does not rely on other attributes often considered "democratic" such as the presence of civil liberties (Gastil), the presence of a free press (Freedom House), the absence of political prisoners etc. This is consistent with the intent to try to separate out the effects of these different dimensions of "democracy" in order to ascertain their independent effects. Polity IV covers 161 countries between 1800 and 1999.

Transparency is captured using data assembled by Knack and Keefer (1995) drawn from the “International Country Risk Guide” (ICRG), a monthly publication of Political Risk Services, a private consulting firm. In-house experts assigned a score for each country-year along five dimensions: government repudiation of contracts, risk of expropriation, corruption, law and order, and bureaucratic quality. While none of these measures the degree to which policies are observable by the electorate directly, they are closely related, and serve as a useful set of proxies. Key to the measure of transparency we use is that it captures how well informed the voters are about the policy actions of the policy-making bureaucracy. Contract repudiation, expropriation, corruption, when they occur, are often done secretly or without publicity; when these are perceived to be absent, there is less to hide. Similarly, more law and order means a more predictable regulatory environment, less prone to unexpected reversals, and therefore consistent with a more transparent policy-making process. The arithmetic average along these five dimensions is taken for the *Transparency* measure. The dataset runs from 1982 to 1995 across 130 countries.

Tenure is drawn from the World Bank’s Database of Political Indicators (Beck et al 2002), and is a measure of stability of the political system. The variable TENLONG is used, which measures the tenure of the veto player in the system with the longest tenure. In autocracies, only the chief executive’s years in office are counted. In presidential systems, the longest tenure among the president and the largest party in the legislature is used. In parliamentary systems, the veto players are defined as the Prime Minister and the three largest government parties. There is data for 177 countries over the years 1975-95.

Descriptive statistics are in Table 1. To provide a flavor of the data, the US (in

1995) gets a transparency score of 7.2 out of a maximum 7.6, while Cuba gets 2.2. Netherlands gets the maximal score of 7.6. The 47 year tenure is North Korea in 1994.

TABLE 1 HERE

Results

Model 1: Transparency and Democracy

Table 2 reports the estimates for the first regression equation:

$$Transparency_{it} = \alpha_0 + \alpha_1 Polity_{it} + \sum_j \alpha_{2j} Control_{it}^j + \epsilon_{it}^1$$

where i is a country and t is a year. The table presents the ordinary least squares parameter estimates and robust (heteroskedasticity-consistent) standard errors are presented in the parentheses⁹.

The first column of Table 2 shows that the degree to which the polity is democratic has a significant and positive impact on the degree of transparency. The effects of increased democracy are quantitatively non-trivial: a pure democracy ($polity = 10$) is predicted to have a transparency score 70% larger than a pure autocracy ($polity = -10$), *ceteris paribus*.

TABLE 2 HERE

The effect of *Polity* on *Transparency* is robust to the inclusion of two control variables. We might expect that as a country becomes richer, and transparency being a normal good, it might purchase or invest in the institutions and agencies needed to provide the information to better monitor the officials. Hence we include *GDP* of the

country at the year in question. Countries more dependent on international trade and capital flows will desire more transparency to continue to attract international trade and capital in an increasingly competitive international environment. We therefore include a measure of the openness of the country-year (*Open*), the fraction of imports and exports in nominal GDP. Both controls are drawn from the PWT 6.0.

Both the coefficients of *GDP* and *Open* are positive (as expected) and significant.

Model 2: Tenure

The estimates of the second regression equation on the tenure of policy makers

$$Tenure_{it} = \beta_0 + \beta_1 Transparency_{it} + \beta_2 Polity_{it} + \sum_j \beta_{3j} Control_{it}^j + \epsilon_{it}^2$$

can be found in Table 3. The dependent variable here is the tenure of the veto player with the longest tenure (*Tenure*), and hence a measure of the duration of office-holding by the most successful politician. As predicted, increases in *Transparency* lead to longer tenures. Also, as expected, more democracy (larger value of *Polity*) leads to shorter periods of office-holding as elected officials are evicted from office more frequently. Both variables are highly significant. Among the controls, *GDP* ceases to be significant in most treatments¹⁰, while *Open* is robust. When controlling for the presence of a constitutional limit on the length of term policymakers can hold office (*Finite Term*), we observe little impact. *Political cohesion* has the expected sign - as the divisions in government increase, the tenure in office falls - and is significant.¹¹

TABLE 3 HERE

Given the results of model 1, we should check for multicollinearity in model 2, in particular, multicollinearity of the *Polity* and the *Transparency* variables. The greater variances in the presence of multicollinearity most likely reduces the significance of the estimates - yet the levels of significance here are routinely at the 1% level or below. Nevertheless, Johnston (1984, p. 248) recommends examining the Condition number of the matrix of regressors, which is the square root of the ratio of the largest to the smallest eigenvalues of the $X'X$ matrix. The largest eigenvalue is 4.41; the smallest 0.03. The square root of the ratio is 12.1 well below the score of 20 or 30 needed before concerns about multicollinearity start to affect the results.

Model 3: Corruption

Table 4 presents the estimates of the third regression equation on corruption.

$$Corruption = \gamma_0 + \gamma_1 TransparencyR_{it} + \gamma_2 Polity_{it} + \sum_j \gamma_{3j} Control_{it}^j + \epsilon_{it}^3$$

Recall that higher values of the dependent variable, *corruption*, refer to lower levels of perceived corruption or rent extraction. Recall too that the transparency measure is an average of five dimensions, one of which is *corruption*. In order to avoid having the dependent variable as a component of an independent variable, here we redefine the the transparency variable as the average of the remaining 4 dimensions (absence of government repudiation of contracts, law and order, bureaucratic quality and absence of expropriation risk) and label it *TransparencyR*.

As expected, the transparency variable is positive and significant in all treat-

ments - more transparency is associated with less corruption. The Polity score is significant and positive - more democracy leads to less corruption. GDP is negative and significant - an interesting and surprising result that richer countries have more corruption - the pie from which to extract is larger, *ceteris paribus*. Openness is not significant, while the constitutional limit on the length of the term of the executive is negative and significant - shorter terms raise corruption. Possibly, executives are pressured to extract more quickly before the term of office expires, *ceteris paribus*.¹²

TABLE 4 HERE

Conclusion

Democratic executives are more likely to design institutions to increase transparency (or at least acquiesce in their creation) than their non-democratic counterparts. Fearful of an unjustified eviction from office by voters concerned that (unobserved) extraction has been excessive, executives actually adopt procedures, mechanisms and institutions to help them convey to the voters that extraction has not been “unreasonably” high. Autocratic executives have no such concerns, and find little need to provide transparency; in fact their incentives run in the opposite direction.

The central prediction therefore is that transparency rises with democratic accountability; this prediction is robustly supported by the data.

The key mechanism here is that democratic executives willingly concede certain extractive opportunities in return for avoiding ejection from office. As a consequence we predict and observe that the term of office of executives is longer under

transparency *ceteris paribus*, even though it shrinks with democracy. Moreover, extraction, as measured by perceived corruption falls with both democracy and transparency.

A number of caveats are perhaps in order. The measure of transparency adopted here may not adequately or precisely capture the notion of transparency of policy-making we have in mind. This measure does incorporate a “quality of bureaucracy” dimension which seems to be the closest measure available with as large a panel as we would like. An alternative might be to try Freedom House’s Press Freedom measure as another check on the results. Unfortunately this measure is available for fewer countries and years than the ICRG measure used here.

A second caveat concerns the corruption regression. This is certainly not complete theory of the determinants of corruption. Treisman (2000) and others do a more systematic job of it. Rather, this brings the notion of transparency to bear on the levels of corruption, independent of polity or wealth and the other obvious causal factors. The robustness of the transparency variable is again striking, suggesting that further work on this topic is warranted.

Thirdly, the model and the empirics have focussed on accountability as the characteristic of democracy of importance. No doubt other aspects of democracy are relevant: civil liberties, the rule of law, an independent judiciary etc. may well matter for the degree of transparency and the levels of corruption.

Nevertheless, this paper presents the first modest attempts to separate out the often conflated notions of democracy, transparency, tenure and corruption.

Appendix

Lemma 1 For any polity σ , in a non-transparent environment, the Nash equilibrium (U^O, x^O) to this game is: $U^O = \bar{U}(\sigma)$ for all x , and $x^O = \begin{cases} \tilde{x}(U; \sigma) & \text{if } U \leq \bar{U}(\sigma) \\ 1 & \text{otherwise.} \end{cases}$

Proof. $U^* = \bar{U}(\sigma)$ is a dominant strategy and $\tilde{x}(U; \sigma)$ is a best response. ■

Lemma 6 $\tilde{x}(U; \sigma)$ falls with U .

Proof. Totally differentiating 6 we have $V_{xU}dU + V_{xx}d\tilde{x} = 0$ or $\frac{d\tilde{x}}{dU} = -\frac{V_{xU}}{V_{xx}} < 0$ since $V_{xU} = \delta\sigma\phi_{xU}V < 0$ ($\phi_{xU} < 0$ by Leibniz's rule (the policy and the threshold are strategic substitutes)), and $V_{xx} < 0$. ■

Notice that as the threshold rises, the intertemporal returns to moderation fall. This is proved in the next lemma.

Lemma 7 $\frac{dV}{dU}|_{\tilde{x}(U; \sigma)} < 0$.

Proof. $\frac{dV}{dU}|_{\tilde{x}(U; \sigma)} = \frac{\partial V}{\partial U}$ by the envelope theorem. $\frac{\partial V}{\partial U} = \frac{v(\tilde{x}(U; \sigma))\delta\sigma\phi_U}{[1-\delta[\sigma\phi(x, U)+(1-\sigma)]]^2} < 0$ since $\phi_U < 0$ by inspection of equation (1). ■

Proposition 1 For any polity $\sigma > 0$, in the non-transparent environment, there is a non-zero probability of eviction along the equilibrium path.

Proof. The probability of eviction along the equilibrium path is $1 - \rho(\tilde{x}(\bar{U}(\sigma); \sigma), \bar{U}(\sigma), \sigma) = \sigma(1 - \phi(\tilde{x}(\bar{U}(\sigma); \sigma), \bar{U}(\sigma))) > 0$. ■

Proposition 2 In a non-transparent polity, along the equilibrium path, extraction falls with democracy, i.e. $\frac{d}{d\sigma}\tilde{x}(\bar{U}(\sigma); \sigma) < 0$.

Proof. $\frac{d}{d\sigma}\tilde{x}(\bar{U}(\sigma); \sigma) = \frac{\partial \tilde{x}}{\partial \bar{U}} \frac{d\bar{U}}{d\sigma} + \frac{\partial \tilde{x}}{\partial \sigma}$. Lemma 1 establishes $\frac{\partial \tilde{x}}{\partial \bar{U}} < 0$ and by a similar argument to Lemma 1, $\frac{\partial \tilde{x}}{\partial \sigma} < 0$. Now $\bar{U}(\sigma)$ solves $V(\tilde{x}(\bar{U}, \sigma), \bar{U}) = \frac{v(1)}{1-\delta(1-\sigma)}$

by the definition above. Then total differentiation yields $V_{\tilde{x}} \left(\frac{\partial \tilde{x}}{\partial \bar{U}} \frac{d\bar{U}}{d\sigma} + \frac{\partial \tilde{x}}{\partial \sigma} \right) + V_{\bar{U}} \frac{d\bar{U}}{d\sigma} = \frac{-v(1)\delta}{(1-\delta(1-\sigma))^2}$. Now $V_{\tilde{x}} = 0$ at $\tilde{x} = \tilde{x}(\bar{U}(\sigma); \sigma)$; then $\frac{d\bar{U}}{d\sigma} = \frac{-v(1)\delta}{(1-\delta(1-\sigma))^2} \frac{1}{V_{\bar{U}}} > 0$ since $V_{\bar{U}} < 0$ by Lemma 2 above. Hence $\frac{d}{d\sigma} \tilde{x}(\bar{U}(\sigma); \sigma) < 0$. ■

Lemma 8 For any polity $\sigma > \bar{\sigma}(\delta) \equiv \frac{1-\delta}{\delta} \frac{v(1)-1}{v(x^P)}$, and any $x^P \leq \tilde{x}(U(\sigma), \sigma)$, the

Nash equilibrium to the mediated transparency game is $R^T = \begin{cases} \text{relect} & \text{if } x_t \leq x^P \\ \text{evict} & \text{otherwise.} \end{cases}$

; the executive plays $x^T = \begin{cases} x^P & \text{if } \sigma > \bar{\sigma}(\delta) \equiv \frac{1-\delta}{\delta} \frac{v(1)-1}{v(x^P)} \\ 1 & \text{otherwise.} \end{cases}$.

Proof. If the voter evicts after $x_t \leq x^P$ is observed, the executive will play 1 from then on, which is worse for the voter. If the executive deviates and plays 1, the executive earns $\frac{v(1)}{1-\delta(1-\sigma)}$; along the equilibrium path, the executive earns $\frac{v(x^P)}{1-\delta}$; $\frac{v(x^P)}{1-\delta} \geq \frac{v(1)}{1-\delta(1-\sigma)} \Leftrightarrow \sigma > \bar{\sigma}(\delta) \equiv \frac{1-\delta}{\delta} \frac{v(1)-1}{v(x^P)}$. ■

Proposition 3 Mediated transparency is preferred to non-transparency by both players when the polity is sufficiently democratic.

Proof. As in the previous proof, $\frac{v(x^P)}{1-\delta} - \frac{v(1)}{1-\delta(1-\sigma)} > 0$ iff $\sigma > \bar{\sigma}(\delta) \equiv \frac{1-\delta}{\delta} \frac{v(1)-1}{v(x^P)}$, so policymakers are better off. Also $x^P \leq \tilde{x}(U(\sigma), \sigma)$ by the voting rule, so voters are better off. ■

Corollary 1 Dissipation is lower under mediated transparency than under non-transparency when the polity is sufficiently democratic.

Proof. $x^P \leq \tilde{x}(U(\sigma), \sigma)$ by the Nash equilibrium voting rule. ■

Notes

¹Much of the literature on the sources of corruption, for instance, expresses the view that corruption is more likely when policies are not widely known or observed, where the policymakers are not frequently monitored, in the absence of auditors, independent media and so on. One of the oft-suggested remedies is to build institutions to provide information - separation of powers, ombudsmen, independent agencies and a free press.

²A related notion concerns the recent moves towards democracy in sub-Saharan Africa and elsewhere. If corruption, rent extraction and dissipation (apparently endemic in these countries) are to be reduced, these emerging democracies will need to develop both mechanisms of accountability and transparency. These mechanisms - frequent elections, free press, independent agencies etc - will not emerge unless the governing elite is willing to adopt them.

³Autocrats too will limit their extraction when the revolutionary threat becomes large. See Rosendorff (2001) for self-limiting extraction by autocracies under the threat of revolution, and Wintrobe (1998) for a comprehensive theory of autocratic behavior.

⁴One could permit $x_t < 0$ indicating effort provided by the executive - this is of little interest in equilibrium.

⁵Ferejohn (1986) requires that the executive receive an exogenous benefit from holding office - which is not required here. Persson, Roland and Tabellini (1997) always permit the executive to know the state of the world in contrast to the information structure here in which the executive is equally uninformed as to the

economic conditions that will pertain at the time the election is held.

⁶Fiorina (1981) has argued that voters typically choose “cutoff” rules in deciding how to vote: “relect the incumbent if my economic well-being exceeds some critical level, and evict the incumbent otherwise”. Banks and Sundaram (1998) establish the optimality of these cutoff rules in this class of retention models.

⁷See Banks and Sundaram (1993) for a similar model in which the executives display both moral hazard (as here) and adverse selection. Fearon (1999) argues that the adverse selection issue motivates voters more than does the moral hazard question: voters care less about disciplining policymakers and more about choosing competent legislators. Lewis-Beck (1988) provides evidence in favor of retrospective voting strategies. We focus here only on the moral hazard issue and assume retrospective voting.

⁸The credibility of the announcement is not the issue here. To study the effects of increased transparency, it must be that the announcement embodies at least some useful information for the voters. See Milner and Rosendorff (1997) for a study of ratification votes in legislatures on the basis of information from biased sources.

⁹Robust standard errors are used to account for the presence of heteroskedasticity, common in panels of this type. The results are unchanged if panel corrected standard errors are used (Beck and Katz 1995); these results are not presented. All regressions are conducted using Intercooled STATA 7.0.

¹⁰*GDP* is significant, but with a negative sign in one treatment, an outcome which appears somewhat anomolous.

¹¹Both *Finite Term* and *Political Cohesion* are drawn from the DPI database (Beck et al, 2002). *Finite Term* is a dummy variable which takes on the value of 1 when there is a constitutional limit on the number of years the executive can serve before new elections must be called, and takes value zero where such limits are absent, suspended, unenforced or not explicitly stated. *Political Cohesion (IPCOH)* is based on the criteria of Roubini and Sachs (1989), where under a presidential system, this variable scores 0 if the same party is in control of the executive and legislature, 1 if not. Under parliamentary systems, this variable scores 0 if the government is unified under a single party, 1 if a coalition government with two parties, 2 with three or more parties, 3 if a minority government. *Political Cohesion* rises with the degree of divisions in government.

¹²Treisman (2000) finds 1) that openness does lead to more corruption, but that the magnitude is small; and 2) richer countries are less corrupt, in contrast to the results here. Treisman also reports that countries with Protestant traditions and histories of British rule are less corrupt.

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	N	Mean	SD	Min	Max	Source
Transparency	1598	4.50	1.64	0.60	7.60	ICRG
TransparencyR	1598	4.80	1.77	0.50	8.00	ICRG
Tenure	1588	9.86	8.55	1.00	47.00	DPI
Polity	1549	1.05	7.79	-10.00	10.00	Polity IV
GDP	1015	0.19	0.51	0.001	4.59	PWT 6.0
Open	1015	62.99	42.92	6.32	386.23	PWT 6.0
Finite Term	1590	0.77	0.42	0	1	DPI
Political Cohesion	1598	0.70	0.82	0	3	DPI

Transparency is the average of 5 dimensions: government repudiation of contracts (0-10 scale), risk of expropriation (0-10), corruption (0-6), law and order (0-6) and bureaucratic quality (0-6); hence

Transparency takes values between 0 and 7.6 with larger values suggesting higher transparency. *TransparencyR* is the average of repudiation, expropriation, law and order and bureaucratic quality. Larger values for *Polity* imply more democracy. *Tenure* is the number of years served by the longest serving veto player. *GDP* is at 1996 prices (US \$billions), *Open* is (Exports+Imports)/Nominal GDP; *Finite Term*

is a dummy with value 1 if there is a constitutional limit on term lengths, and *Political Cohesion* is discussed in footnote 9.

Sources: ICRG is from Knack and Keefer (1995), Polity IV is Marshall and Gurr (2000), PWT 6.0 is the Penn World Tables Mark 6.0 (Heston et al 2001) and DPI is the Database of Political Indicators (Beck et al 2000).

Table 1: Descriptive Statistics and Sources.

	I	II	III
Intercept	4.474* (0.034)	4.221* (0.443)	3.414* (0.701)
Polity	0.1165* (0.004)	0.114* (0.005)	0.108* (0.005)
GDP		6.45x10 ⁻¹⁰ * (6.23x10 ⁻¹¹)	9.03x10 ⁻¹⁰ * (8.73x10 ⁻¹¹)
Open			0.012* (0.001)
N	1511	958	958
R-squared	0.312	0.366	0.464

Note: These parameters are estimated using ordinary least squares.
 Figures in parentheses are robust standard errors. *p<.01.

Table 2: Effects of Polity, GDP, Openness on Transparency in 109 Countries,
 1982-1995.

	I	II	III	IV	V
Intercept	3.394* (0.560)	4.217* (0.629)	3/779* (0.612)	2.933* (0.750)	3.472* (0.754)
Polity	-0.597* (0.032)	-0.533* (0.038)	-0.499* (0.038)	-0.524* (0.039)	-0.492* (0.040)
Transparency	1.54* (0.126)	1.369* (0.148)	0.926* (0.168)	0.896* (0.169)	1.039* (0.176)
GDP		-1.11x10 ⁻⁹ * (4.24x10 ⁻¹⁰)	-9.08x10 ⁻¹¹ (3.95x10 ⁻¹⁰)	-1.43x10 ⁻¹⁰ (4.08x10 ⁻¹⁰)	-2.42x10 ⁻¹⁰ (4.15x10 ⁻¹⁰)
Open			0.035* (0.005)	0.035* (0.005)	0.033* (0.005)
Finite Term				1.299 (0.737)	0.651 (0.758)
Political Cohesion					-0.921* (0.259)
N	1484	948	948	948	948
R-squared	0.199	0.191	0.221	0.225	0.231
F-value	177.81*	69.04*	71.04*	62.60*	52.18*

Note: These parameters are estimated using ordinary least squares. Figures in parentheses are robust standard errors. *p<.01, **p<0.05.

Table 3: Effects of Polity and Transparency and Controls on the Tenure of the Longest Serving Official, 109 countries, 1982-1995.

	I	II	III	IV	V
Intercept	0.604* (0.082)	0.764* (0.090)	0.410* (0.096)	0.399* (0.096)	0.677* (0.107)
Polity	0.024* (0.004)	0.031* (0.004)	0.023* (0.005)	0.023* (0.004)	0.033* (0.005)
TransparencyR	0.559* (0.016)	0.559* (0.016)	0.612* (0.019)	0.626* (0.019)	0.630* (0.021)
GDP				-1.03x10 ⁻¹⁰ * (3.34x10 ⁻¹¹)	-9.50x10 ⁻¹¹ ** (3.92x10 ⁻¹¹)
Open			-0.001 (0.001)		-0.000 (0.001)
Finite Term		-0.199* (0.069)			-0.395* (0.086)
N	1511	1487	958	958	948
R-squared	0.570	0.575	0.627	0.627	0.644
F-value	1103.95*	736.96*	644.20*		

Note: These parameters are estimated using ordinary least squares. Figures in parentheses are standard errors. *p<.01, **p<0.05.

Table 4: Effects of Polity and Transparency and Controls on Corruption across 109 countries, 1982-1995.

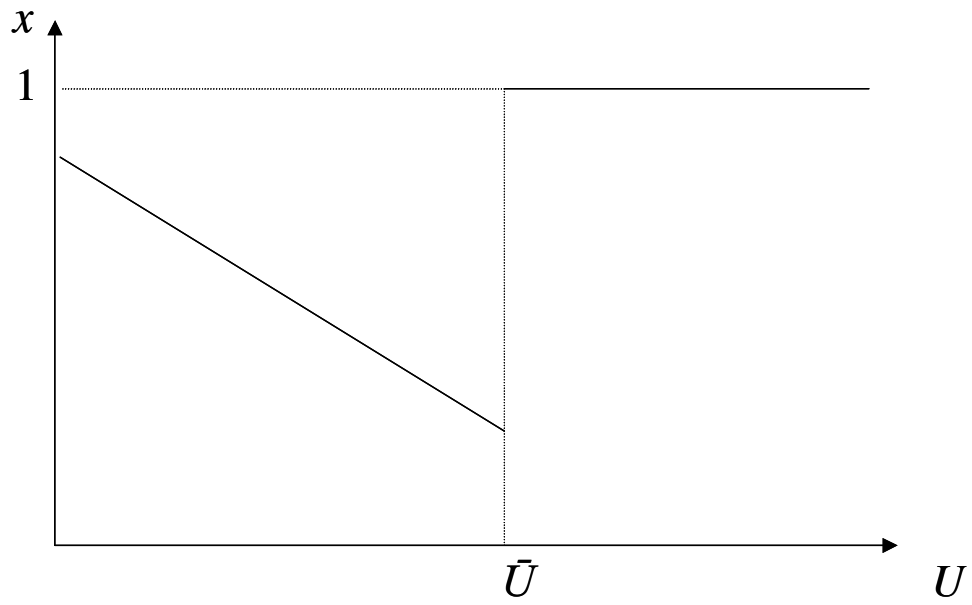


Figure 1: The executive's best response function.

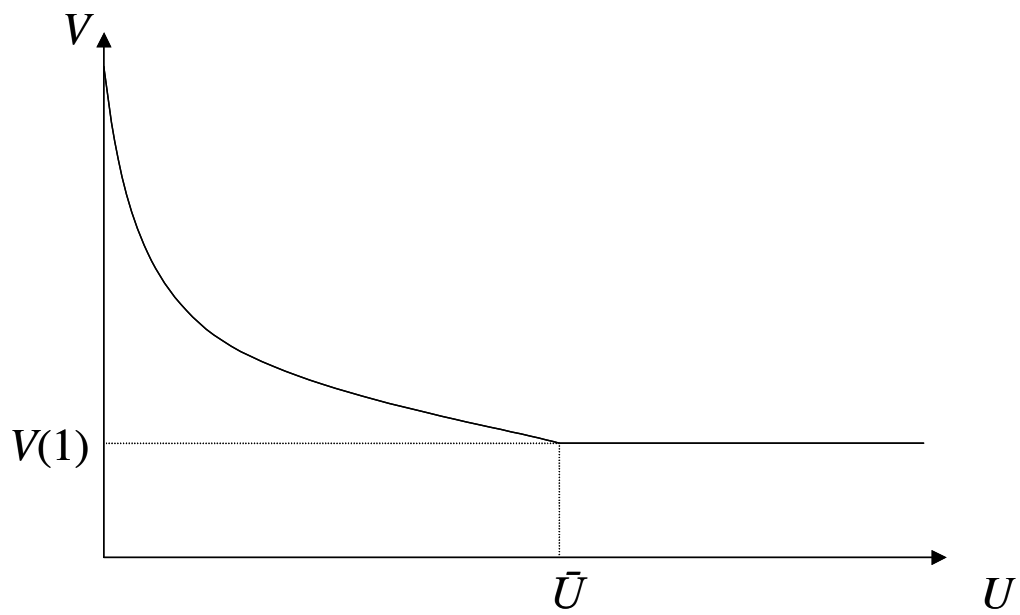


Figure 2: The executive's expected returns fall as the threshold rises, up until $\bar{U}(\sigma)$.

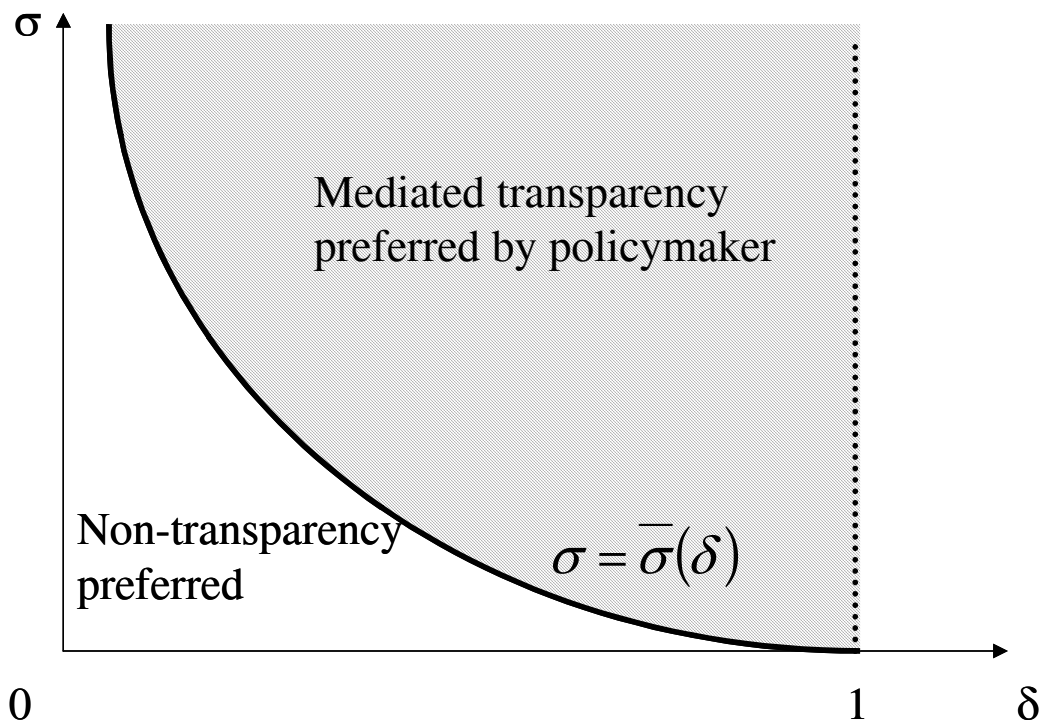


Figure 3: The Parameter Space: Sufficiently democratic executives prefer mediated transparency.

Overview

The significant problems we face today cannot be solved at the same level of thinking we were at when we created them.

—Albert Einstein

Beyond Technocratic Policies

The history of economic and social development in Latin America is dominated by the search for new paradigms: simplified ways of understanding how the economy and society function that offer governments a variety of policy alternatives. Latin America has ridden the waves of successive paradigms from the State-run, inward-looking development of the postwar era to the macroeconomic discipline and trade liberalization of the Washington Consensus in the 1990s. As with other paradigms, the region's enthusiasm for the Washington Consensus has waned, and it is now in search of a new paradigm that offers better economic results, more stability, and greater equity.

This report questions the logic behind this search. The Fountain of Youth and the City of Gold were fantasies, and so are magic formulas for accelerating growth and eradicating poverty. Certain simple ideas can help to mobilize society, but they are rarely sufficient for understanding the processes of fundamental change. Sadly, there are no shortcuts to the Promised Land of sustainable development and prosperity for all.

Previous editions of this report have analyzed various aspects of economic, social, and institutional reform and have discussed the pros and cons of diverse policy options. What is clear is that, whatever the policy area, there is no single formula applicable to all circumstances; policies' effectiveness depends on the manner in which they are discussed, approved, and implemented. Therefore, instead of focusing on the substance and orientation of particular policies, this report concentrates on the critical processes that shape these policies, carry them forward from idea to implementation, and sustain them over time. It takes as its starting point the premise that the processes of discussing, negotiating, approving, and implementing policies may be at least as important as the specific content of the policies themselves.

A strictly technocratic approach toward policymaking short-circuits these steps of discussion, negotiation, approval, and implementation, which have at their core the messy world of politics. This report views the political process and the policymaking process as inseparable. To ignore the link between them when pursuing policy change may lead to failed reforms and dashed expectations.

This study, like the background research and accompanying analysis it draws upon, takes a detailed look at the institutional arrangements and political systems at work in Latin America, as they shape the roles and incentives of a variety of actors (some of them professional politicians, others members of civil society) that participate in the policy-making process. It then goes on to explore the way in which this process contributes to shaping policy outcomes and takes a long look at the political economy of specific countries and sectors: the dynamic between politics and economics that is so central to a nation's development.

This body of work additionally advances a framework of the policymaking process that helps in understanding the complex variables and interactions that come into play as policies are discussed, approved, and executed. Taken together, the framework, research, case studies, and analysis can help demonstrate that, while some worthwhile changes can take place, not every reform is politically or institutionally feasible.

The hope is that this study will be of use to those who participate in policymaking processes and want to understand the limitations and the potential of public policies and attempts at reform. However, this report does not offer recipes or magic potions. On the contrary, it serves as a warning to those who believe that a policy's chances for success can be judged abstractly on its theoretical or technical attributes without considering the institutional, political, and cultural context in which it is applied.

This report does not cover countries with parliamentary systems. The core institutional setup of these countries is different from that of the countries in Latin America with presidential systems. Not only do the former have parliamentary political regimes, but they have also inherited, from their institutional tradition, party systems, professional bureaucracies, and justice systems that differ from those in the rest of Latin America. The study of institutions, policymaking processes, and policy outcomes in these countries constitutes a very important next step in the research agenda. This next step has already begun, with a study of policymaking in Jamaica, which is reflected in Box 3.1 in Chapter 3.

A Varied Landscape

For the last 15 years, Latin America has experimented with a wide range of policies and reforms. Nonetheless, the success of those reforms and more generally, the quality of public policy, have varied considerably.

- While some countries can maintain the basic thrust of their policies for long periods of time, thus creating a predictable and stable environment, other countries experience frequent changes in policies, often with every change in administration.

- While some countries can adapt their policies rapidly to changes in external circumstances or innovate when policies are failing, other countries react slowly or with great difficulty, retaining inappropriate policies for long periods of time.
- While some countries can effectively implement and enforce the policies enacted by congress or the executive, others take a great deal of time to do so or are ineffective.
- While some countries adopt policies that focus on the public interest, in others, policies are filled with special treatment, loopholes, and exemptions.

Why this variation? What determines the ability to design, approve, and implement effective public policies? To answer this question, this study brings to bear an eclectic and interdisciplinary approach, described in Chapter 2, drawing on both economics and political science. It also draws on a wealth of background research produced by a network of researchers across Latin America, which provides insights into the workings of the policymaking process and its impact on policy outcomes. This background material includes:

- Detailed studies of the workings of political institutions and policymaking processes in 13 countries.
- Studies that focus on the role of different actors (legislators, political parties, presidents, business, the media, and others) as they participate in the policymaking process in a variety of arenas.
- Comparative studies focusing on the link between policymaking processes and policy outcomes in a number of specific sectors, such as education, health, social protection, decentralization, budget processes, and tax policy, as well as the privatization and regulation of public utilities.

The research agenda and this study build on other work, notably the effort that culminated in the publication by the Inter-American Development Bank (IDB) in 2002 of the book *Democracies in Development: Politics and Reform in Latin America*.¹ That document was primarily concerned with the effect of alternative arrangements of democratic institutions on a broad definition of democratic governability. It focused on a number of distinct institutional dimensions of democratic systems (such as legislative electoral systems), one at a time.

This report is part of a further effort, focusing more explicitly on the process of policymaking and on the characteristics of the public policies that result from different policymaking environments. Rather than taking institutional traits one at a time, it looks into the interactive effects of multiple institutional rules on political practices, as well as the effect of these practices on policymaking.

Since the approach is systemic, this report does not evaluate the performance of individuals responsible for making or implementing policy. However, this does not imply that the report ignores the important role that the leadership and competence of public

¹ Payne and others (2002).

actors play in policy outcomes. Instead, the systemic approach simply attempts to understand the constraints and incentives that condition the actions of presidents, legislators, judges, public servants, and other actors that participate in the policymaking process.

Given an emphasis on complex interactions, part of the research agenda behind this report takes a country-centered, historically grounded approach. A first output of that effort is reflected in the Political Institutions, Policymaking Processes, and Policy Outcomes project, conducted under the auspices of the Latin American Research Network of the IDB.²

This report takes an additional step in advancing that agenda. It looks deeper into *cross-country comparisons* of the roles and characteristics of the main actors and arenas of the policy process. It develops *new indicators* of policy characteristics and of some properties of political systems. And it develops *comparative cases* in a number of policy areas.

This report should be taken as one stage of a work in progress. It raises more questions than it answers. Unlike previous editions of *Economic and Social Progress in Latin America*, which presented the culmination of years of research, this report is still writing an agenda. Research, analysis, and synthesis will continue. The main messages of the work to date are summarized in the rest of this chapter.

² The results of the project, which benefited from the input of practitioners and academics from several disciplines, are available for examination at http://www.iadb.org/res/index.cfm?fuseaction=LaResNetwork.StudyView&st_id=82.

Main Messages

Ten main messages can be extracted from this year's report.

1. Processes matter!

The process by which policies are discussed, approved, and implemented (the policy-making process) has an important impact on the quality of public policies, including the capacity of countries to provide a stable policy environment, to adapt policies when needed, to implement and enforce policies effectively, and to ensure that policies are adopted in pursuit of the public interest.

2. Beware of universal policy recipes that are supposed to work independently of the time and place in which they are adopted.

Recent experience of countries in Latin America with the reforms of the Washington Consensus shows that reforms with similar orientation and content can have very diverse results. One of the pitfalls of advocating the adoption of universal policy recipes—and one of the driving motivations for this report—is that policies are not adopted and implemented in a vacuum. Rather, they must proceed within the context of a country's political institutions. These political institutions, as well as the policymaking processes they in turn help shape, can have a profound impact on the success or failure of any policy.

3. Certain key features of public policies may be as important in achieving development goals as their content or orientation.

The impact of public policies depends not only on their specific content or particular orientation, but also on some generic features of the policies. An "ideal" policy that lacks credibility and is poorly implemented and enforced may be more distortionary than a "suboptimal" policy that is stable and well implemented. This study examines six such key features: *stability, adaptability, coherence and coordination, the quality of implementation and enforcement, public-regardedness* (public orientation), and *efficiency*. These key features have a great deal of bearing on whether policies can actually enhance welfare, can be sustained over time, and can contribute to overall development.

4. The effects of political institutions on policymaking processes can be understood only in a systemic manner.

Policymaking processes are very complex, as a result of the multiplicity of actors with diverse powers, time horizons, and incentives that participate in them; the variety of arenas in which they play the game; and the diversity of rules of engagement that can have an impact on the way the game is played. A focus on a few institutional characteristics (such as whether the country has a presidential or parliamentary system, or whether the electoral rules are of the plurality or proportional representation variety) will only pro-

duce a very fragmented and unsatisfactory understanding of these processes. In order to understand them more fully, the institutional setup needs to be addressed by a systemic or “general equilibrium” approach.

5. Political and institutional reform proposals based on broad generalizations are not a sound reform strategy.

A corollary of the previous point is that the merits of potential changes in political and institutional rules must be considered carefully, with an understanding of how these rules fit within the broader institutional configuration. Broad generalizations about the merits of different political regimes, electoral systems, or constitutional adjudication of powers among branches are not very useful. Partial equilibrium views that stress the importance of a single institutional dimension may lead to misguided institutional and policy reforms. Understanding the overall workings of the political process and of the policymaking process in each specific country, with its specific historical trajectory, is a crucial prerequisite for developing appropriate policy reform proposals and institutional reform proposals.

6. Policy or institutional reforms that have important feedback effects on the policymaking process should be treated with special care, and with an understanding of the potential ramifications.

Policy reforms often have feedback effects on the policymaking game. In some sectors, these feedback effects are likely to alter the specific sector’s policy game by creating new actors or changing the rules of engagement among them. But some reforms (particularly in sectors such as decentralization, budget processes, or civil service reforms) can have a much broader impact and alter the dynamics of the country’s policymaking process. Policy or institutional reforms that have important feedback effects on the policymaking process should be considered with special care, and with an understanding of the potential ramifications.

7. The ability of political actors to cooperate over time is a key determinant of the quality of public policies.

Multiple actors (such as politicians, administrators, and interest groups) operate at different points in time over the policymaking process. Better policies are likely to emerge if these participants can cooperate with one another to uphold agreements and sustain them over time. In systems that encourage cooperation, consensus on policy orientation and structural reform programs is more likely to emerge, and successive administrations are more likely to build upon the achievements of their predecessors.

8. Effective political processes and better public policies are facilitated by political parties that are institutionalized and programmatic, legislatures that have sound policymaking capabilities, judiciaries that are independent, and bureaucracies that are strong.

- **Well-institutionalized political parties (especially parties that have national and programmatic orientations).** Institutionalized, programmatic parties tend to be consistent long-term policy players. A political system with a relatively small number of institutionalized parties (or coalitions) is more likely to generate inter-temporal cooperation, and to lead to the emergence of consensual sustained policy stances on crucial issues (*Políticas de Estado*).
- **A legislature with strong policymaking capabilities.** Policies tend to be better when legislatures develop policymaking capacities and constructively engage in national policymaking, rather than when they simply adopt a subservient role, rubber-stamping the wishes of the executive.
- **An independent judiciary.** A well-functioning and independent judiciary can be a facilitator, fostering bargains among political actors by providing enforcement that binds them to their commitments, and by ensuring that none of the players oversteps its boundaries.
- **A well-developed civil service.** A strong and technically competent civil service can contribute to the quality of public policies by making policies more stable, by enhancing the overall quality of implementation, and by preventing special interests (which often choose to wield their influence during the policy implementation stage) from capturing the benefits of public policies.

9. Most of these “institutional blessings” are not granted overnight. Building them, and keeping them in place, depends on the political incentives of key political actors.

The incentives of professional politicians such as presidents, legislators, and party leaders (as well as their interaction with the rest of society) are crucial for the workings of institutions. Improving the capabilities of congress requires that legislators have incentives to develop such capabilities. Independent judiciaries are built only over time, but they can be destroyed overnight. Adopting the best civil service law in the world will not work if patronage involving positions in the bureaucracy remains an important currency used by politicians to reward their partisan base.

10. Leadership, if functional, can be a vital force for institution-building.

Individual leaders can play a vital role as catalysts in the development of institutions. Functional leadership can encourage deliberative processes that allow policies and institutions to adapt to the needs and demands of society. Leadership, however, can also be dysfunctional. Rather than contributing to institution-building, dysfunctional leaders can have the opposite effect. Their accumulation of power allows them to get things done, but at the expense of weakening institutions.

