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TESTIMONY

TRANSPARENCY THROUGH TECHNOLOGY: EVALUATING FEDERAL OPEN GOVERNMENT EFFORTS

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Subcommittee on Technology, Information Policy,
Intergovernmental Relations, and Procurement Reform

Mr. Chairman and Members of the Committee:

Thank you for inviting me to testify on "Transparency through Technology: Evaluating Federal Open Government Efforts." As a senior research fellow at the Mercatus Center at George Mason University, my research over the last few years has focused on how governments and citizens can use Internet technologies to increase transparency and thereby ensure accountability. I'm happy to share with you some of the things I have learned.[1]

As someone who believes that Internet-enabled transparency can lead to better and more accountable government, I am gratified by government's efforts in this space over the past five years. Transparency is an issue that has been genuinely embraced by both sides of the political aisle, and what was once an esoteric concept—that meaningful transparency requires disclosures to be online in an open, searchable, and machine-readable format—has become a generally accepted ideal. Those are great strides.

However, despite the Obama Administration's technological efforts and Congressional legislation like the Federal Funding Accountability and Transparency Act (FFATA), whether government is performing effectively is still not completely transparent. That's because the vast majority of newly available data is not about government activity, and disclosures that are about government tend to report its activities, not data on program outcomes. When program outcomes are reported, they are suspect because they are self-measured and self-reported by program managers.

With a federal spending crisis on our hands, Congress must soon decide which programs to cut and which to keep. Voters will have to decide if they support Congress's choices. The whole process would be much easier if information existed about government programs' relative performances. Fortunately, Congress can take simple actions—such as having the Office of Management and Budget (OMB) play a role in public sector similar to the role of an independent auditor plays in the private sectors—that would increase confidence about the relative effectiveness of federal agencies.

WHY CARE ABOUT TRANSPARENCY?

Your invitation to testify at this hearing said the hearing's purpose is to "examine the results of open-

[1] This testimony reflects only the views of its author and does not represent an official position of George Mason University.

government initiatives and legislation."[2] One thing I have learned in my research is that in order to judge a program's results, you need to understand what it is trying to accomplish. Only then will you be able to measure whether the program has achieved those aims.

The Obama administration has defined open government as encompassing transparency, collaboration, and participation. Collaboration within and without government is important, and so is public participation, especially in the regulatory process where unelected officials make decisions. However, improving participation and collaboration are secondary to increasing transparency. You need transparency before you can have meaningful participation or collaboration.

The concept of transparency is often posited as an unalloyed good and a hallmark of democratic government. Rarely is it explained in any detail why this is the case or why increased government transparency is a desired result. The reason seems obvious: in a democratic society, the people should know how their representatives govern. For today's discussion however, I want to make explicit the case for transparency.

An economist might view transparency as a way to eliminate a type of market failure known as an "information asymmetry." Described in detail by Nobel Prize-winner Joseph Stiglitz, information asymmetry occurs when one party to a transaction has much more relevant information than the other, which can potentially create suboptimal market conditions.[3] In classical economic theory, mutual gains from trade are based on the idea that each party knows exactly what he is getting and values it more highly than what he gives up, enabling both sides to benefit. But this is not always the case in the real world. Sometimes one party has access to important information that the other lacks. Transparency, at bottom, eliminates that information asymmetry, ensuring that mutually beneficial trades can take place.

One particular type of information asymmetry relevant to government transparency is known as the "principal-agent" problem. It refers to situations in which it is difficult to monitor the behavior of one's agents so that it becomes impossible to appropriately compensate them for their efforts.[4] The incentives of agents and those of principals rarely align perfectly—if they did, principals would not have to compensate agents to complete their tasks. Steven Levitt and Stephen Dubner, the authors of *Freakonomics*, explain this concept with reference to real-estate agents.[5] While a home seller would like her agent to secure the highest possible bids for her property, she cannot monitor the agent's every action. The agent, on the other hand, would like to spend as little time and effort as possible selling a particular house so she can move on to the next client. Not surprisingly, studies show that when real estate agents sell their own homes, they command significantly higher prices than comparable units.[6]

Another familiar example of a principal-agent problem is the difficulty of finding a good mechanic. Because the mechanic knows much more about cars than her customers do, there is a temptation for the mechanic to "fix" things that aren't really broken. Of course, paying for unnecessary repairs is not mutually beneficial, but the customer is unlikely to know the difference.

Therefore, transparency is not an end in itself, but simply a means to an end, and that end is accountability. Accountability happens when one party holds another party responsible for its actions. One party may hold another responsible for its actions when there is a principal-agent relationship. For example, if you stopped a

[2] Letter from Chairman Lankford sent 2/28/2011.

[3] Joseph E. Stiglitz, "Information and the Change Paradigm in Economics," *The American Economic Review* 92 (2002): 460, 470.

[4] David E. M. Sappington, "Incentives in Principal-Agent Relationships," *Journal of Economic Perspectives* 5 (1991): 45–49.

[5] Steven D. Levitt & Stephen J. Dubner, *Freakonomics: A Rogue Economist Explores the Hidden Side of Everything*, 66–67 (Harper Collins Publishers, 2005).

[6] Steven D. Levitt and Chad Syverson, "Market Distortions When Agents Are Better Informed: The Value of Information in Real Estate Transactions," *The Review of Economics and Statistics* 90 (2008): 599, 609.

stranger on the street and demanded to know what she was doing there, you would not be surprised by a surly response. Absent an understanding to the contrary, no one—stranger or friend—owes you an explanation for his or her actions. However, if the person you stop were the babysitter who should have been watching your children at that moment, you would expect a very good explanation. What allows you to hold her accountable for her presence on the street is your principal-agent relationship with her.

As discussed, a principal-agent relationship is one in which one party—the principal—contracts with another—the agent—to act on the principal's behalf. A principal, therefore, is entitled to monitor the performance of the agent and hold the agent accountable for her actions. For example, if a principal hires an agent to paint a house, the principal will hold the agent accountable by checking to see whether in fact the house has been painted. Accountability then takes the form of either reward or punishment. If the agent has done a good job of painting the house, the principal rewards the agent by paying her and perhaps also by paying a bonus and by recommending the agent's services to friends. On the other hand, if the agent has not painted the house or has done a poor job, the principal may punish her by withholding payment and dissuading friends from hiring the agent.

In some instances, it's easy to observe an agent's performance. Whether a house is painted for example, will be obvious to the naked eye, and it will be easy for a principal to hold the agent accountable. There are other instances, however, when a principal cannot easily monitor an agent's performance. For example, if you hire a babysitter to watch your toddler while you are away on an overseas trip, you cannot directly monitor the babysitter's performance. Indeed, in this case you are contracting with an agent to act on your behalf precisely because you cannot be present.

In such a case there is an asymmetry of information. The agent knows more about her performance than the principal does so that it is difficult or impossible for the principal to hold the agent accountable. Was the babysitter with your toddler at all times? Did the babysitter feed your toddler healthy meals or junk food? Such an information asymmetry changes the agent's incentives. That is, because the agent knows that the principal cannot adequately monitor the agent's actions, the agent may feel she can behave differently than she would if the principal could monitor her.

Why would the agent behave differently than how she contracted with the principal to behave? If you can monitor the babysitter, you can hold her accountable and penalize her for not feeding your child a healthy meal. The babysitter's incentive is now to do as she has promised you so that you will reward her for her actions. The interests of the principal and agent are therefore aligned. However, if there is an information asymmetry, and the babysitter knows that you cannot monitor her performance, then the babysitter's interest will no longer align with yours. It is much easier, and perhaps even less expensive, for the babysitter to feed the toddler junk food instead of healthy food. She could pocket the cost difference and spend the time saved from cooking watching TV. The information asymmetry—the fact that you cannot monitor the babysitter-agent—changes her incentives.

Thus, transparency is not an end in itself, but a means to accountability by removing information asymmetries, thereby aligning the interests of principals and agents. To see how, let me define what I mean by transparency. Transparency is a process that: (1) requires one to disclose (2) substantively and truthfully (3) one's performance (4) to those who are entitled to know.[7]

First, in order for transparency to be effective, disclosure must be mandatory. Otherwise, the agent's incentive would be to disclose her performance when it is convenient to her and to withhold information when it is not. To avoid an information asymmetry, a policy of transparency must compel an agent to disclose her performance 100 percent of the time. Similarly, disclosures must be full and truthful. Partial disclosure does not eliminate the potential for information asymmetries if inconvenient parts of one's performance can be withheld.[8] That disclosures must be truthful should go without saying; agents cannot be

[7] My friend and Mercatus Center colleague Maurice McTigue, who led New Zealand's transparency and accountability reforms in the 1990s when he served in parliament and cabinet, developed this definition of transparency.

[8] Mark C. Penno, "Information Quality and Voluntary Disclosure," *The Accounting Review* 72 (1997): 275, 277.

held accountable unless the information available to principal about the agent's performance is accurate.

Therefore, what transparency properly understood requires for disclosure is not just actions, but *performance*. Performance is the result of actions. In some cases, actions and performance are practically one in the same. If you paint a house, the house will be painted. In most instances, however, evidence of actions or activity is not evidence of good performance. If a parent hires a teacher to educate her child, the teacher may teach diligently, but that is not evidence that the child has learned anything. How much the child has learned should be the measure of the teacher's performance. Only if the principal can measure the agent's performance—and not simply monitor his activity—can a principal hold an agent accountable.

Finally, transparency requires substantive and truthful disclosures of performance to those entitled to the information. As an employee, you may have an obligation to disclose your performance to your employer, but not to your doctor or your mailman. There is a principal-agent relationship in the first case, but not in the latter cases. A *potential* principal-agent relationship might also trigger an obligation to disclose. For example, a company's management must disclose the corporation's performance not only to its board of directors and shareholders, but to potential shareholders as well.

In a democracy, there is a principal-agent relationship between the people and the government. The people hire elected leaders, and by extension all civil servants, to manage the government and thus are entitled to hold those leaders accountable for their performances. To the extent that the people can hold elected officials accountable at the ballot box (and elected officials can hold civil servants accountable in turn), the interests of the people and their representatives should align. That is, the people want effective government, and those in government will have an incentive to perform well because they want to be rewarded, not punished, at the ballot box or in the court of public opinion.

Unfortunately, there are often information asymmetries because it is difficult for the people to monitor the actions of government. Politicians and civil servants are human. When they know that the citizens are not monitoring their actions—and therefore cannot hold them accountable easily —their incentives will change. Like the errant babysitter, an unobserved public servant is subject to shifting incentives and may be tempted to indulge her personal interests at the expense of the public interest.

Many of these information asymmetries arise out of the costs and benefits of monitoring public officials. Voters have a weak incentive to monitor the behavior and actions of policy makers; the costs of actual delving into the minutiae of government are fairly high because of the sheer volume of policy options and considerations.[9] The actual benefit that voters will receive from many of these policy questions, however, are low compared to the costs of informing themselves of the detailed positions of policy makers.

Transparency initiatives, especially those that provide easily accessible information through sources such as the Internet, help this problem by lowering the monitoring costs of voters. Furthermore, instead of relying on filters such as the media for information on public figures, the public has a greater ability to directly observe the actions of government. Therefore, by lowering the cost of finding information, transparency allows voters to monitor policy makers more closely, and this can potentially lead to better outcomes.

OPEN-GOVERNMENT EFFORTS AND TRANSPARENCY

With this in mind, Congress can begin to measure the results of the recent open-government initiatives based on how well they are disclosing government performance. With a federal spending crisis on our hands, Congress will soon have to decide which programs to cut, and citizens will have to decide if they support Congress's choices. The whole process would be much easier if information existed about the programs' relative performances. Unfortunately, the utility of the available information varies widely.

One year ago this week, I attended a talk at the Brookings Institution by OIRA Administrator Cass Sunstein

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9 Viktor Vanberg and James Buchanan, "Constitutional Choice, Rational Ignorance, and the Limits of Reason," in *The Constitution of Good Societies*, Karol Soltan & Stephen Elkin eds, (1996), 39, 43–44.

on “the power of open government.” I was excited because it was an opportunity to hear an administration official talk about transparency shortly before the initial release of the open government plans mandated by the Open Government Directive.

He said the administration was making huge strides on open government, and he cited the new product-recall database from the Consumer Product Safety Commission as a great example of open government. I was a little perplexed by that. He then mentioned a tire safety ratings database from the Department of Transportation, the toxic-release inventory from EPA, nutrition labeling, newly released FAA flight-delay information, and OSHA workplace-death tallies. It is wonderful that these data are public, but these datasets are not really about open government, and they are certainly not about transparency.

As Sunstein said, disclosure is a “high-impact, low-cost” form of industry regulation. It keeps actors accountable for their performances, and this nudges them to behave well. But if disclosure works for regulated industries, it should work for government, too. To me that is what open government is about—government disclosing its own actions, not simply the actions of those it regulates. Therefore, I find it dangerous to be satisfied with the current type of open government.

On Data.gov the government has compiled wonderful, never-before available datasets about regulated industries but little about its own performance. Excluding the 305,000 datasets that pertain to geodata, the Data.gov data catalog makes available just over 3,000 “raw” datasets.[10] Of these, about half are related to the Toxic Release Inventory compiled by the EPA. These are disclosures about regulated entities that, while very valuable to individuals and researchers, tell us little about the performance of government. A quick scan of the remaining 1,500 datasets reveals that only 200 to 300 report on the activities or performance of government, not the activities of some other entity. There is plenty of smoke, but little fire.

Contrast that to datasets like Research.gov. This National Science Foundation database of federally funded science and engineering research allows users to search for grants by keyword, location, or grantee; see which grants were awarded and for how much; and learn about the results of specific, federally funded research projects.[11] This information is useful in holding government accountable for its performance to some extent. Less useful (although no doubt valuable to some researchers) are datasets like “Effects of Fire on Avian Communities of Rocky Mountain Forested Ecosystems—Olive-sided flycatcher Nest Data” from the U. S. Geological Survey.[12]

Spending-transparency sites like USASpending.org and the Recovery.gov site are also useful because they disclose government’s actions. They allow citizens, watchdogs, bloggers, and reporters to access the raw data of the business of government; make creative uses of that data, including making interesting mashups; and crowdsource accountability.[13] However, these types of sites are not perfect. As the Sunlight Foundation and others have pointed out, the quality of the data available can be sorely lacking.[14] Also**,** until recently, only information about the primary recipient of a contract or grant awards was available on USASpending.org, limiting the usefulness of the site.

More broadly, while spending sites can help uncover instances of fraud, waste, and abuse, they are less helpful in measuring performance because the simple disclosure of inputs or outputs is insufficient to address performance-related principal-agent problems. That is, transparency about the amounts of money disbursed, the recipients, and simple descriptions of contracts or grants provide little help in evaluating a program’s effectiveness. “Output data” are mere measures of actions taken and stand in contrast to “*outcome* data,” the

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[10] Data.gov, Raw Data Catalog, http://www.data.gov/catalog/raw (accessed Mar. 9, 2011).

[11] Research Spending and Results, http://www.data.gov/tools/309/ (accessed Mar. 9, 2011).

[12] Effects of Fire on Avian Communities of Rocky Mountain Forested Ecosystems—Olive-sided flycatcher Nest Data, http://www.data.gov/geodata/g601347/ (accessed Mar. 9, 2011).

[13] Jerry Brito, “Hack, Mash & Peer: Crowdsourcing Government Transparency,” *Columbia Science & Tech. L.R*. 9 (2008): 119, http://www.stlr.org/html/volume9/brito.pdf.

[14] Clearspending.org—Results, http://sunlightfoundation.com/clearspending/results/ (accessed Mar. 9, 2011).

measurements of progress toward a defined public benefit. To determine whether a program is performing as intended, the public needs information not only about outputs, but also about outcomes.[15]

Sites like the National Science Foundation's Research.gov attempt to provide outcome data. In addition to information about grants, recipients, and amounts, it also includes summaries of the results of the funded research. This is a step in the right direction. Unfortunately, the principal investigator funded by the research grant prepares the outcomes reports available to the public.[16] This preserves a principal-agent problem inherent in performance reporting that technology alone cannot solve.

BEYOND TECHNOLOGY IN ENSURING TRANSPARENCY

Information technology is very good at facilitating quantitative disclosures, but not qualitative ones. For example, if the Department of Education funds several reading programs, it's easy for it to disclose how many programs exist, how much money is going to each, how many children are going through the programs, and other similar data. What is harder for it to capture is whether children are learning to read.

Capturing and disclosing this type of performance data is important because as Columbia Professor Louis Lowenstein showed, "quite apart from [the reduction of corruption], good disclosure has been a most efficient and effective mechanism for inducing managers to manage better."[17] The calculus is simple: as an agent, if you must disclose your performance, you will have an incentive not to self-deal against the interests of the principal. Additionally, however, if your compensation is tied to your performance, you will have an incentive to perform well.[18] At the very least you will have an incentive to try to improve those figures that will be disclosed and on which you will be judged.[19] In short, "you manage what you measure."[20]

In the case of corporate managers, what is managed is straightforward. A publicly traded corporation must disclose its earnings, as well as its expenditures, assets, and capital depreciation on a quarterly basis. It must do so in granular form, breaking down results by line of business and by geographic region. Such an objective measure of performance not only allows the market to set the stock price, but it also allows shareholders to hold management accountable. Now think of government transparency. All agencies and programs disclose their expenditures in their annual budgets. Agencies report capital assets and depreciation in their annual financial reports. What government does not report are earnings figures, for the simple reason that there are none. Therefore, a government program may be transparent, and yet the public sees only half of the balance sheet.

In business, a firm's profit or net income, which describes the return on investment, is an excellent measure of overall performance. How much a firm earned with what it spent describes results investors can judge easily. If a company consistently spends more money than it earns, or if investors believe the company can earn more given how much it spends, investors will demand changes from management. In contrast, the public cannot adequately judge the results of a government program or agency. In general, there is little disclosure of whether the expenditures produced any returns at all, much less returns that justify the

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15 Harry P. Hatry, *Performance Measurement* (Urban Institute Press, 1999), 35–41, 174.

16 Research.gov—Project Outcomes Report, http://www.research.gov/research-po rtal/appmanager/base/desktop?_nfpb=true&_pageLabel=research_page_n_about_por (accessed Mar. 9, 2011).

17 Louis Lowenstein, "A Governance Tool That Really Works," *Directors & Boards* (1997), http://findarticles.com/p/articles/mi_go2446/is_n1_v22/ai_n28695337/.

18 John M. Abowd, "Does Performance-Based Managerial Compensation Affect Corporate Performance?" *Industrial and Labor Relations Rev*. 43 (1990): 52-S, 53-S.

19 One would hope that a disclosed figure improved because the program performance results it reflects have improved. But it should be noted that agents may be able to prevaricate so that reports look acceptable at first glance.

20 Lowenstein, "A Governance Tool That Really Works."

investment.[21]

Congress tried to solve this dynamic with the GPRA, which requires agencies to express program goals in terms of measurable results and to publish plans for how it will attain those results. GPRA then requires agencies to measure the actual results and disclose these in performance reports.[22] Doing so should help agencies tweak their plans for better results and help federal managers and Congress make better decisions about allocating scarce resources.

The problem, however, is that Congress charged the very agency management that runs the programs with developing what success looks like. The agency develops the measures, measures itself, and writes a self-evaluating performance report.

Compare an agency's method of disclosure to corporate performance disclosures. A company's management—as agents—makes financial statements that outline the company's performance available to their principals—the board and stockholders—so that the board and stockholders can decide whether to keep the management or fire them or sell the stock. So far this is very similar to the performance measurement we see from GPRA. But there is one key difference: Congress has required that a publicly traded company must hire independent third-party auditors to help prepare and certify its reports.[23]

Congress requires independent auditors in the corporate world, and those independent auditors solve the principal-agent problem. Remember an agent will have the upper hand if she can control the information available to the principal. Conversely, a principal can make an agent's incentives align with the principal's own interests if she can credibly monitor the agent's activities and performance. Independent auditors are therefore at the heart of solving the principal-agent problem. They are the disinterested monitors that certify to the principal the accuracy of what the agent reports is its performance.

Because agencies write GPRA-mandated performance reports themselves, it is unrealistic to expect a tough, neutral, and dispassionate evaluation. Put simply, GPRA tries to measure results by asking agencies to 1) state a goal, 2) to state objective measures to determine progress toward that goal, and 3) measure and report their progress. If agents have an incentive to present results in the best possible light—and they do—then they will write the goal statements in such a way that their meaning and what counts as "success" is at the very least open to interpretation. The metrics selected by agencies will be similarly ambiguous.

The recently enacted GPRA Modernization Act of 2010 requires OMB to "determine whether agency programs or activities meet performance goals and objectives outlined in the agency performance plans" on an annual basis.[24] Consequences for not meeting goals include requiring the agency to submit plans for improvement and eventually requiring OMB to recommend a course of action to Congress to address continued under-performance. Unfortunately, while OMB will now make a determination of whether agencies have met their goals, agency managers still determine the goals and the measurements of success.

This system needs more accountability. Here are some checks that Congress could institute to increase agency accountability.

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[21] As early as 1940, scholars understood that governments had no "bottom line" to serve a metric of success. V.O. Key, "The Lack of a Budgetary Theory," *Am. Pol. Sci. Rev.* 34 (1940): 1137 (reviewing the public administration literature and concluding that there is no coherent theory to suggest how government should allocate resources). More recently, it has been suggested that attempts to formulate any such normative theory for resource allocation is "utopian." Aaron Wildavsky, "Political Implications of Budget Reform: A Retrospective," *Pub. Admin. Rev.* 52 (1992): 594, 595.

[22] Government Performance and Results Act of 1993. Pub. L. No. 62-107 Stat. 285 (codified as amended in scattered sections of 31 U.S.C. and 39 U.S.C.).

[23] 15 U.S.C. § 78j-1 (2007).

[24] 31 U.S.C. §1116(f).

- Before OMB determines whether agencies have met their goals, it should help determine whether the goals and the measures developed by the agency are valid. Congress could require OMB to check that strategic plans use outcome measures and that those measures can be empirically verified. If goals or measures do not meet a qualitative standard, OMB could return them to the agency for revision. Congress could place this function, similar to that of the Office of Information and Regulatory Affairs' role reviewing significant proposed regulations, in the Office of the Deputy Director for Management.

- Congress could require that inspectors general audit performance reports to make sure that agencies are using OMB approved measures. Congress could also task OMB with determining the quality of the data the agencies are using for the measurements.

- Under GPRA, the agency head must certify the quality of the data reported, a practice similar to that applicable to CEOs in the private sector who must certify the quality of their financial reports. In Sarbanes-Oxley, Congress spelled out concrete penalties for CEOs that misrepresent the data. It could do the same for agency heads in the public sector.

The progress Congress and the Obama Administration have made in making transparency—and especially online transparency—a key objective for government cannot be overstated. The culture of secrecy that has long pervaded federal agencies is beginning to change. Citizens, reformers, and civically minded hackers are realizing the possibilities presented by programmatic access to government disclosures. To really leverage this opportunity, however, we must make sure that open government is first and foremost about transparency and that transparency is clearly understood as the disclosure of government performance in the service of greater accountability.

Thank you for the opportunity to share my views with you.