Navigation by Judgment: Organizational Autonomy in the Delivery of Foreign Aid

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This work examines an understudied component of aid effectiveness, the organizational features of international development organizations (IDOs). This paper examines whether, when, and how organizational autonomy affects project success. It employs regression analysis of a novel dataset—evaluations of over 14,000 projects from nine international development organizations—using self-evaluated project outcomes as a measure of success, the State Fragility Index as a measure of environmental unpredictability, and both expert surveys and a measure constructed from organization-level responses to Paris Declaration monitoring surveys as measures of aid organization autonomy. The key finding is that organizational autonomy matters to project success, with increasing returns to autonomy in fragile states and in project domains where it is more difficult to externally observe (and thus contract on) outcomes. Comparing recipient-country environments one standard deviation above and below the mean, a relatively high-autonomy development organization would see a difference of about .05 points in performance on a six-point scale, while a relatively low-autonomy development organization would see more than 10 times the difference. High-autonomy organizations, then, see more consistent performance across countries. This effect is concentrated in sectors in which it is difficult to contract on accurate output measures (such as capacity building) rather than in sectors in which such measurement is relatively straightforward (such as road construction). Inasmuch as measurement (particularly legitimacy-seeking output measurement) is a constraint on organizational autonomy, this augurs for less organizational navigation by measurement and more organizational navigation by judgment in more unpredictable environments and less contractible task domains.

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Although the uniqueness of the foreign aid agency's task has been recognized and understood, the organizational environment that such a task requires has never been specified…. I ascribe problem results to an organizational, rather than a historical, determinism. – Judith Tendler (Tendler 1975, p. 9, 110)

[USAID suffers from] Obsessive Measurement Disorder (OMD), an intellectual dysfunction rooted in the notion that counting everything in government programs (or private industry and increasingly some foundations) will produce better policy choices and improve management… [Relatedly] demands of the oversight committees of Congress for ever more information, more control systems, and more reports have diverted professional USAID (and now MCC) staff from program work to data collection and reporting requirements. –Andrew Natsios, former administrator, US Agency for International Development (Natsios 2010, p. 8)

INTRODUCTION

In 2006, Liberia was just emerging from two decades of conflict. A strong Minister of Health was looking for international help in improving Liberia's woeful health statistics, among the world's worst.[1] Faced with a ministry that had not produced a financial statement in over a decade and having no idea where funds allocated to the ministry were flowing, the Minister approached the US Agency for International Development (USAID) about establishing an office of financial management. USAID declined. The Minister then approached the UK's Department for International Development (DFID), which was excited by the idea and quickly began to implement it.[2] At a point when it was still too early to measure the new office's performance and generate quantitative data, DFID staff on the ground realized that their mission was not succeeding. They used their judgment that the wrong personnel had been assigned and arranged to have them replaced. Today, the Liberian health ministry's office of financial management is thriving, praised for its professionalism and effectiveness.

In the same country, in the same ministry, both DFID and USAID wished to support the same reform-minded Minister by putting the ministry in greater control of external funding. DFID set in motion the development of a pooled fund—a collective funding mechanism with contributions from multiple donors and a governing board composed of donor and health ministry representatives. While at least some of the critical USAID decision makers would have liked to contribute to the fund, Congressional restrictions

[1] These accounts come from related qualitative work and, while no citations are provided here, are well sourced in the related qualitative piece, available on request.

[2] Later, following a conversation with the US Ambassador and his intervention, USAID did indeed offer to provide support to establish the unit, though on a much slower timeline than that of DFID.

prevented USAID from comingling its funds in this way; USAID ultimately set up a parallel system with much higher transaction costs and predetermined performance targets which, due to Liberia's inherent unpredictability, require frequent and costly revision.

In South Africa in the mid-2000s, both USAID and DFID wished to strengthen municipal governments. DFID's primary mode of engagement was to embed flexible advisers in municipal governments and let them guide support over the long term. USAID considered a similar strategy but initially rejected it, in part because it would be difficult to develop consistent measures for these activities. USAID instead initially worked primarily via the delivery of trainings, an approach for which the outputs (such as the number of participants and trainings) could be more easily measured.

The aid industry abounds with tales of projects where organizational rules got in the way of field staff doing what they were there to do by constraining the design, implementation, or revision of projects; a great number of these stories focus on the constraints of measurement and reporting. While one could reasonably argue that there is a systematic bias in these kinds of stories, with aid professionals only reporting the cases where constraint hurts performance and not the myriad cases where constraint prevented errors or kept things on track, these tales suggest that organizational features are a possible unexplored margin for explaining variation in development project outcomes.

This work explores the roles of measurement and autonomy in organizational performance. It investigates the contexts in which more reliance on the perceptions and decisions of field staff—what I call organizational navigation by judgment—fares better than navigation by measurement; that is, the attempt to "pay for performance" by monitoring and contracting on output measures. This study focuses in particular on how environmental unpredictability and task observability and contractibility influence the optimal balance of judgment and measurement.

Quantitative output metrics follow New Public Management practices very much in the mainstream (e.g. Hood 1991), and serve the important purpose of allowing progress to be tracked and goals achieved. Measuring what people do and motivating them accordingly has a clear and compelling intuition in its favor, one that resonates with anyone who has ever seen a child's eyes get brighter at the promise of something they desire after their homework is completed. Aligning tangible rewards with production

aligns employees' incentives with firms, ensuring that employees are contributing to a firm's bottom line with greater rewards for a greater contribution. In the last few decades new public management (NPM) has increasingly carried over private sector incentive schemes into the public sector. (Christensen and Laegreid 2011; Hood 1991, 2004; Lorenz 2012; Pollitt and Bouckaert 2011). Conventional wisdom is that measurement and management regimes that set targets and manage towards them are signs of a high-performing organization. This view is the dominant one in the aid discourse today, with organizations increasingly moving towards measurement and management through targets and indicators which are linked to externally verifiable data so as to improve accountability and work towards what many in development term the "results agenda". (Gulrajani 2011) A number of leading IDOs have come together, in fact, to form a "Global Partnership on Output-Based Aid", which looks to contract directly on output targets.[3] I challenge this conventional wisdom, arguing that under certain conditions measurement regimes are not just an indicator of conditions for low performance but also directly causal of reduced performance towards organizational ends.

The judgment vs. output measurement debate is very much a live one in development at the moment, with scholars noting the ongoing debate among practitioners and a number of scholars arguing for a more iterative, agent judgment-driven approach which plans less ex-ante and instead adapts to the soft, contextual information of recipient country environments. (Andrews, Pritchett, and Woolcock 2012; Barder 2009; Booth 2013; Easterly 2014; Ramalingam 2013) There have been, however, few empirics to shed light on this debate – what is the best way to manage development?

The net effect of an organizational control regime which focuses on the measurable in a drive to achieve results has never been put to rigorous evaluation, in part because no single agency has sufficient variation with regards to the *de jure* control regime to allow for causal inference from any study of organizational constraints within it.[4] Do more autonomous International Development Organizations (IDOs) – those with less need to manage up to their political authorizing environments – lead to more successful project

[3] The GPOBA is at www.gpoba.org.

[4] This is not to suggest there is no intra-agency variation in autonomy/control - only that it is difficult to study empirically as it often depends on features for which quantitative data is scarce.

outcomes and more efficient aid? Do agencies with more autonomous field agents – those facing fewer constraints and thus able to navigate more by judgment – fare better? Do such effects vary systematically across different kinds of countries or project task domains?

Development aid has been linked to outcomes as varied as governance quality and inclusiveness, economic development trajectories, and civil war; delivering aid more effectively is one of critical import to a variety of real-world outcomes. (Bräutigam and Knack 2004; Clemens, Radelet, and Bhavnani 2004; Fearon, Humphreys, and Weinstein 2009; Nielsen et al. 2011) The question of optimal autonomy and optimal measurement schemes is also one every organization must make; a better understanding of the topography, the dimensions which augur for or against more output measurement or more autonomy, has the potential for vast practical impact well beyond development's shores.

This paper brings to bear an original cross-IDO dataset, incorporating over 14,000 unique development projects into what is now the world's largest cross-organizational database to incorporate development outcomes.[5] Because of the nature of the data, it is not possible to examine the direct effect of organizational autonomy on project success, although my related qualitative work does just this.[6] The present work instead focuses on heterogeneity as regards the effect of autonomy on project outcomes, exploring the returns to autonomy in conditions of differential environmental unpredictability and in differentially measurable task domains.

THEORY

Principal-agent models similar to that employed here have long been used in bureaucratic politics and public administration, with discretion and autonomy principal levers employed in these models. (Alesina and Tabellini 2008; Calvert, McCubbins, and

[5] While the movement for aid information transparency has made impressive strides in the past few years, most of the progress to data has been on inputs – on spending data and financial flows. No other source (including the International Aid Transparency Initiative, the OECD Development Assistance Committee's Creditor Reporting System, and the AidData archive) includes systematic information on the results of projects in a way tractable to quantitative analysis for any donor other than the World Bank, which also makes these data public and easily accessible from the Bank's website (the only such donor to do so).

[6] This qualitative analysis complements the present quantitative investigation and does find that autonomy has a positive net effect on project performance in all but the most predictable environments and measurable tasks, where the net effect of autonomy may be negative.

Weingast 1989; Carpenter 2001; Gailmard and Patty 2013; Huber and McCarty 2004; Huber and Shipan 2002, 2006)

As regards international development, the complex political authorizing environments of aid givers (de Mesquita and Smith 2009) and the distortions they sometimes give rise to (Barnett and Finnemore 2003) naturally provides variation which can be empirically exploited regarding the characteristics of aid agencies. Numerous scholars have framed international development agencies as organizations in which the interplay between political principals and IDOs, and IDOs and their agents, play critical roles in organizational functioning and outputs. (Hawkins et al. 2006; Nielson and Tierney 2003) As for bureaucrats in such agencies, there is good reason to think that they substantially influence what occurs, and matter critically to organizational rules and success. (Johns 2007; Johnson and Urpelainen 2014)

It is surprising, then, that there has been so little empirical work on international organizations that animates the *agents*, rather than the principal, despite calls to do so. (Hawkins and Jacoby 2006) This work responds to Wilson's call to begin to both focus on organizational systems and begin with front line workers in understanding organizations. (Wilson 1989; 23, 33-34) It aims to respond to what some have called "Wilson's Challenge", namely "Ignorance of variation and complexity, and the consequent failure to recognize the importance of internal organization." (Chang, Figueiredo, and Weingast 2001, p.271). This work is also among the first to take up Dixit's (2002) call for empirics that do "not seek sweeping universal findings of success or failure of performance-based incentives or privatization, but should try to related success or failure to specific characteristics like multiple dimensions and principals, observability of outputs and inputs, and so on." (p.724)

Some types of task are more tractable to measurement and external monitoring than others. If an organization is constructing a building, there are clear standards of output quality that can be observed or contracted on. If an organization is training teachers, it is much harder to develop appropriate short-term output measures against which results can be measured. The notion that tasks are inherently different and pose different measurement challenges is well articulated in the management control systems literature on private sector contexts and is a critical part of some of the most prominent

theorizing in the public administration literature on bureaucratic functioning and contracting (Brown and Potoski 2003, 2005; Wilson 1989).

Soft Information vs. External Monitorability

It is only natural to think that output measurement will enhance organizational performance; if one wishes to achieve something, measurement allows one to know the distance traveled and provide incentives to managers and staff to reach organizational goals. As World Bank President Robert Zoellick put it in a major public address, "We know that a focus on results is absolutely key for donors [those who contribute funds to the World Bank], for clients [those who receive funds from the World Bank], and for us." (Zoellick 2010) President Zoellick's words suggest that improving performance is not the only reason to measure, however; measuring results is also important to those who contribute funds to IDOs, with IDOs justifying themselves via demonstration of quantitative accomplishments. Measurement also benefits IDOs by allowing them to seem more accountable, to report to political authorizing environments and ultimately to the rich polities that provide their funding. This focus on the measurable, then, is in part a form of normative isomorphism (DiMaggio and Powell 1983), with the measurement regime serving organizational legitimacy. This is not its only role, of course; measurement is also genuinely felt by many to be the way forward in ensuring aid accomplishes its objectives.

This work examines whether measurement, particularly output measurement, is in fact a universal virtue. While measurement and control have clear benefits, they also have costs; an agent who is constrained either by controls or quantitative output targets is by definition less autonomous and as such is relatively less able to seek the best course based on the environment they encounter and their instincts regarding same. The literature on commensuration (e.g. Espeland and Stevens 1998) suggests that measurement is not a neutral act; a focus on data tends to lead to a devaluation of that which cannot be as easily counted or tracked. Fifty years of scholarship has noted this kind of contracting also serves to reduce flexibility, which may be advantageous in some contexts but deleterious in others. (Grossman and Hart 1986; Laffont and Tirole 1988; Macaulay 1963; Williamson 1983)

In the language of contract theory, the hypothesis here is that contracting on outcomes (via output measurement and incentives to meet them) is the first best solution;

however, this first best is unreachable in many (perhaps the vast majority) of foreign aid task domains. In these environments an organization will be best served by pursuing the second best solution to contracting, which is to devolve control to field level agents, empowering them to deliver aid in a manner which best incorporates soft information – to navigate by judgment. An IDO that navigates more by measurement should see the gap in its relative performance driven by sectors where outcomes are more difficult to observe, as where measurement is easy, frequent, and unlikely to lead to distortions it should not be the inferior strategy.

Few organizations will fully forsake either measurement or judgment; there are no IDOs that do not use any quantitative measurement, nor are there any that navigate without allowing agents any autonomy. There is nonetheless a tradeoff between measurement and agent autonomy (and thus organizational navigation by judgment) that, while intuitive, is rarely incorporated into the design of aid delivery. Agencies are arrayed along a continuum between navigation by measurement and navigation by judgment. There is heterogeneity with regards to the extent to which what an IDO or its staff does is driven by measurements like project output measures (for example, the number of road miles constructed or the number of individuals trained) and the extent to which is acceptable to rely on one's judgment as the basis for a decision.

The optimal level of autonomy is contingent (following Lawrence and Lorsch 1967) on features of the task and environment. Measurement is more difficult for some tasks than for others; in tasks that are not tractable to output measurement, management by measurement may prove ineffective but nonetheless crowd out the agent autonomy necessary for optimal organizational performance. In the context of international development, Pritchett and Woolcock describe tasks for which discretion may be necessary as those for which

> [d]elivery requires decisions by providers to be made on the basis of information that is important but inherently imperfectly specified and incomplete… the right decision depends on conditions ("states of the world") that are difficult to assess (*ex ante* or *ex post*), and hence it is very difficult to monitor whether or not the right decision is taken (2004, p. 9).

One could imagine a community governance project in rural Afghanistan as such a task; the "correct" implementation would seem to be hard to specify ex-ante and would need to rely on judgments by properly placed agents, judgments which would be difficult to

assess from the outside either ex-ante or ex-post. In such an environment, autonomy might prove critical to success. On the other hand, a road construction project in Turkey seems to be a task for which one could imagine clear performance-based measures and a predictable, externally observable sequence of events; measurement of outputs and management from above might well prove the superior strategy.

The difference between these two contexts would seem to be the degree to which tacit knowledge (Polanyi 1966) or soft information is critical to success. Stein defines soft information as

> [i]nformation that cannot be directly verified by anyone other than the agent who produces it. For example, a loan officer who has worked with a small-company president may come to believe that the president is honest and hardworking—in other words, the classic candidate for an unsecured "character loan." Unfortunately, these attributes cannot be unambiguously documented in a report that the loan officer can pass on to his superiors (2002, p. 1892).

In international development implementation, soft information includes (but is not limited to) assessments of ministry personnel and their motivations, how to structure or revise a project to maximize its likelihood of being in the interests of important political actors and thus fully implemented, or simply whether a project under implementation is headed in the right direction. Many things that are hard to codify and communicate up a hierarchy may well be critical to a development project's success.[7]

Soft information can only be collected by agents who are properly placed, and following Aghion and Tirole (1997) will only be collected by agents *who have the incentive to do so.* If agents or organizations do not have the autonomy to incorporate this information into their decisions, there is no incentive to bother collecting it. An IDO that fails to provide the space for agents to gather soft information will have less of it to incorporate into decision-making. In environments where soft information is necessary, then, Aghion & Tirole (1997) find, therefore, that in environments where this information is necessary, field-level agents will need real (not just formal) authority; only via a grant of

[7] This line of argument shares much with a separate literature on observability and top-down control pioneered by James Scott's *Seeing Like a State* and the myriad "Seeing Like…" publications it has spawned. Soft information is, on this view, a first cousin of mētis, which Scott defines as "a wide array of practical skills and acquired intelligence in responding to a constantly changing natural and human environment" (Scott 1998, p. 313).

autonomy will they gather and incorporate the information necessary for optimal organizational performance.

Autonomy allows field staff to make judgments about program design, management, and revision that rely on soft information; to navigate by judgment. Autonomy also leads to better quality staff (who migrate where they have the power to make decisions) and superior organizational learning. Agent autonomy, then, can allow an organization to (a) take more initiative in gathering soft information and incorporating it into decision making and organizational learning, (b) focus on elements of performance not contracted on via targets, and (c) increase motivation and retention, potentially increasing employee quality.[8] This may allow organizations to get greater results with fewer controls, in a parallel to the Bohnet, Frey, and Huck suggestion that it may be possible to get "More Order with Less Law". (Bohnet, Frey, and Huck 2001)

However, autonomy is not unambiguously positive; autonomous agents can use their autonomy in ways that do not benefit the organization. They may be more susceptible to capture and corruption (Tirole 1994). They may also simply act in ways not desired by their supervisors; this is why Aghion and Tirole (1997) frame the other side of the autonomy tradeoff as a loss of control. It is possible to have too much autonomy; agents and agencies may use their freedom to drive projects in the wrong direction. If this were the dominant effect of autonomy, one would expect that more autonomous agencies would show poorer performance, even more so in contexts where it is harder to get feedback about their performance—that is, in more unpredictable environments and task domains where monitoring is harder. As this alternative theory makes predictions precisely the inverse of those outlined below, this work's empirical results will allow us to see which of these effects dominates.[9]

[8] The mechanisms by which the incorporation of soft information by autonomous agencies and agents leads to better decisions and more successful development projects are explored in greater depth in qualitative case studies (Honig forthcoming).

[9] In the abstract, I would hypothesize that the relationship between autonomy and project success is an inverted parabola, with some optimal point. In the observed universe of IDOs the data suggests a more linear relationship; that is to say, no IDOs – even those with relatively greater autonomy - are at or past the inflection point, making it difficult to assess empirically where precisely the first derivative of the function reaches zero or becomes negative.

This study focuses on organizational autonomy (relative to its political authorizing environment) and field staff autonomy (relative to their supervisors or headquarters). These two levels of autonomy co-vary, as demonstrated empirically below. The less stable an IDO's authorizing environment, the more it will need to justify itself and the more it will rely on quantitative targets, precluding the incorporation of soft information into decision making. Put another way, constraints on autonomy roll downhill. To return to the opening vignette, the organizational constraints that Congress puts on USAID translate into constraints on the agents in the field. Table 1 below contrasts the less secure authorizing environment USAID faces with that of DFID, concluding with each organization's ranking on the measure of organizational autonomy that will be a key independent variable in this work.

Table 1: Comparison of USAID and DFID's Political Authorizing Environment

	Political status of aid agency head	*Budget security*	*Response to 2008 financial crisis*	*Workplace satisfaction surveys*	*Rank (out of 33) on autonomy measure used in this study*
DFID	Full ministerial rank, limited coordination with Foreign Affairs	Three-year budget allocations; few earmarks	Only ministry spared from across-the-board cuts; budget has continued to increase	Top 2%	3
USAID	Head of USAID (Administrator) reports to State Department	Yearly, often delayed; USAID budget heavily earmarked	Cutting aid-funding promises *literally* the first thing mentioned by Obama ticket (as candidate)	Bottom third	29

Sources: 2012 US Federal Employee Viewpoint Survey Global Satisfaction Index (USAID 25th of 36); 2013 UK Civil Service People Survey Employee Engagement Index (DFID tied for 2nd of 98); Biden-Palin Debate, October 2 2008; author.

I theorize that less autonomous IDOs—those with less room to maneuver in their political authorizing environments—will respond by focusing on measurement and on "managing up"; that is, by responding to politics and the concerns of those who authorize the organization's funding and thus carefully justifying the organization's actions and programs to a greater extent than is the case for more secure, more autonomous IDOs. This will, in turn, put constraints on the actions of field-level agents, limiting their autonomy and their ability to navigate by judgment. As a result of these dynamics, the decisions of a less autonomous IDO will incorporate less soft information.

These insights echo those of Nobel laureate economist Elinor Ostrom and her team, who argue in an analysis of the Swedish International Development Agency (SIDA) that "the broader institutional context of the donor agency has a profound effect on the relationships between recipient and beneficiary organizations, contractors, and the individuals working with the aid agency" and affects agency staff's decisions (Gibson et al. 2005, p. 156). They also argue for decentralization to the field, in part to give staff the autonomy and incentive to overcome what they see as "significant asymmetries" of local knowledge—that is, tacit knowledge or soft information (p. 42).

Predictions Across Recipient Environment and Task Domain

IDOs only rarely vary their delivery mechanisms to fit environment and task, although what is appropriate for Turkish road construction may not be the right solution for Afghan community empowerment.[10] In keeping with a long line of scholarship in organizational behavior, one would expect an interaction between organizational form and task environment (Brechin 1997; Lawrence and Lorsch 1967; Thompson 1967). The argument that the more unpredictable the work process or the greater the environmental volatility, the higher the optimal level of agent discretion and autonomy also has a lengthy pedigree in the literature (Dobbin and Boychuk 1999; M and Simon 1958; Thompson 1967), although this study is the first empirical quantitative application of this theory to international development organizations of which I am aware.[11]

In more unpredictable environments, the ability of more autonomous agencies and agents to more appropriately adapt projects will be in greater demand, as will project design and implementation which incorporates soft information. More unpredictable environments are also inherently less legible to external actors. In those developing countries characterized by greater predictability, the name on the door of a government unit is well correlated with the activities that take place within and medium- and long-term plans have some reasonable chance of proceeding apace, with predictable risks to

[10] Some IDOs have special mechanisms for states newly emerging from conflict or for "fragile" states.
[11] This argument also has parallels in the political science literature, particularly in James Q. Wilson's (1989) notion of procedural organizations (for which outputs can be observed but outcomes cannot) and Jane Mansbridge's (2009) notion of a selection model for agents in the political sphere in contexts where sanctions are unlikely to be effective due to the periodicity of the potential to sanction and the difficulty of monitoring.

implementation. In other developing countries, none of this is the case. The more predictable (the more naturally legible to a distant principal) the context, the less a failure to incorporate soft information into decision making will impede project success.

That we might expect this dynamic to be at play in international development is suggested by the 2011 World Bank World Development Report, which argues for adapting the modality of assistance to the level of country risk (which one might think of as covarying with unpredictability). The WDR also suggests the link to measurement hypothesized here, saying "Standard development measures… are excellent long-term goals and indicators, but they are not always helpful in fragile situations in the short term. These indicators move too slowly to give feedback on the speed and direction of progress." (World Bank 2011, pgs. 209-210) Analysis of Would Bank projects is consistent with this, demonstrating that WB project performance declines in less predictable contexts. Chauvet, Collier, & Duponchel (2010) find that the probability of a World Bank's project success increases as peace lasts and the country becomes more stable.

This argument is also quite compatible with one of the most intriguing in international development bureaucracy, that of Rasul and Rogger (2013); they find that autonomy is beneficial even in the Nigerian civil service, a context Fukuyama (2013) specifically suggests might warrant control and less autonomy might be needed due to low capacity. Extending the argument put forward here, it is possible in the Nigerian context that environmental unpredictability's need for greater autonomy trumps the lack of direction that might result from the interaction of higher autonomy and lower capacity.

The nature of the task itself will make measurement more appropriate in some contexts than in others. In sectors where outputs that can be measured easily, frequently, and quickly (such as the distribution of a vaccine) are tightly linked to desired outcomes (such as the acquisition of immunity), measurement can be of great benefit in cutting through the complexity of process and ensuring that the aid achieves desired outcomes. But when the gap between the observable and thus contractible output and the desired outcome is greater—for example, when focusing on governance reforms or when seeking to improve a health *system* rather than build health *clinics*—a control regime that circumscribes agencies and agents' zone of independent action (either through tighter explicit supervision or through intense application of measurement) is suboptimal.

IDOs' propensity to measure is also consistent with the oft-repeated stylized fact that many of aid's most impressive recent achievements are in health, particularly in vaccine and medicine delivery, domains that are particularly tractable to direct measurement. Pritchett and Woolcock suggest that what works in these task domains will likely not be optimal in others, with optimal aid delivery mechanisms necessarily endogenous to the nature of a task, including the degree to which discretion is necessary in its implementation (Pritchett and Woolcock 2004; Woolcock 2013).

In sum, then, I am arguing that navigation by measurement will be most useful for relatively routine tasks and/or relatively predictable environments where (a) the desired outcomes are verifiable and thus contractible and (b) it is easy to make frequent non-distortionary measurements which will also be stable, avoiding Goodhart's Law problems. Navigation by judgment, on the other hand, will be most useful when (a) tasks are difficult to routinize and/or environments are relatively unpredictable and (b) it is hard to define appropriate targets ex-ante or find good measures.

DATA AND SPECIFICATIONS

It would be ideal to have time-varying data on organizational autonomy for every IDO, including variation at the country (or even project) level. The data available only varies at the IDO level and is time-invariant.[12] This work therefore cannot test directly for the effect of autonomy on success directly, as different IDOs have different measurement standards; a rating of 4 given by the German Development Bank (KfW) may or may not mean a project is more successful than one that received a rating of 3 from the International Fund for Agricultural Development. This work can, however, examine the *differential* performance of IDOs with varying levels of autonomy in interaction with other explanatory variables, thus leveraging the idea that a rating of 4 given by KfW means a project succeeded better than a project assigned a 3 by KfW.

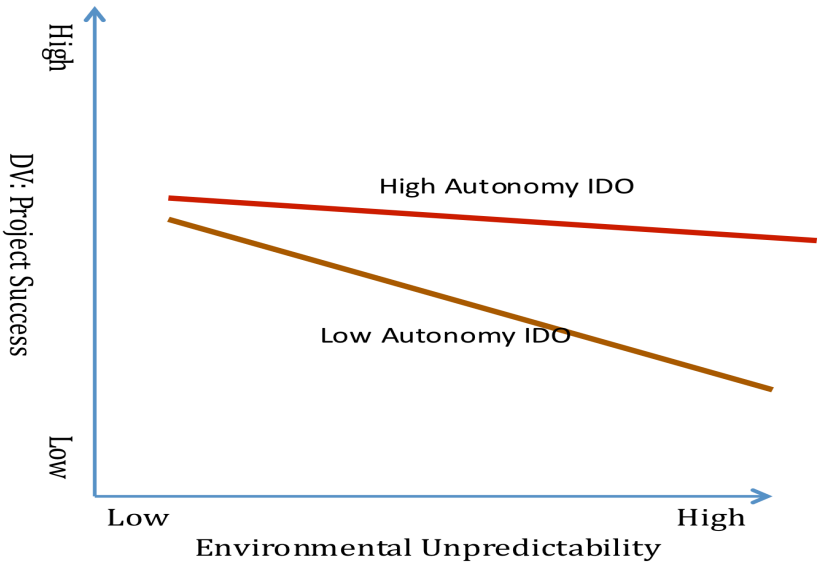
I examine two such interactions—whether there are increasing returns to autonomy in more unpredictable environments and whether the relationship between autonomy and

[12] This study's focus on measurement at the organizational level is not intended to suggest there is not recipient and recipient-year variation in autonomy, only that this is the level at which measurement is most clean and broad. Controls below ensure that my results are not biased by these other levels of variation in autonomy.

project success is changed based on the external observability and monitorability of project task domains. The relationship between project autonomy and environmental unpredictability is an observable implication of the soft-information mechanism posited above, with soft information in greater demand in contexts that are more rapidly changing. The monitorability of task domains is, in a sense, a scope condition; in task domains where measurement is more appropriate, we might expect that returns to soft information will be nil and that an IDO oriented towards acquiring this information will fare less well than one which focuses on externally observable "hard" information.

This work examines the effect of unpredictability *in interaction with* the autonomy of IDOs. I expect that IDOs will find situations with greater unpredictability more difficult on average. However, more autonomous IDOs—those that navigate by judgment—will be better able to cope with this unpredictability than will their less autonomous peers. The hypothesized relationship is depicted in a stylized manner in Figure 1 below.[13]

Figure 1: Hypothesized Relationship between Environmental Unpredictability and Project Success for IDOs of Differing Autonomy



[13] As noted above, this work cannot investigate the vertical position of the lines and thus cannot make absolute comparisons of performance across agencies. It is possible that at low levels of environmental unpredictability, low-autonomy IDOs perform better; by extension, this claim also cannot be investigated with these data. Complementary qualitative (case study) work investigates both of these claims, finding autonomy a significant contributor to overall project success. This work investigates the relative slopes of different organizations' performance at varying levels of fragility.

I examine differential returns to autonomy in a dataset that I compiled of over 14,000 unique projects in 178 countries carried out by nine donor agencies over the past 50 years. The nine agencies are the European Commission (EC), the UK's Department for International Development (DFID), the Asian Development Bank (AsDB), the Global Fund for AIDS, Tuberculosis, and Malaria (GFATM), the German Development Bank (KfW), the World Bank (WB), the Japanese International Cooperation Agency (JICA), the German Society for International Cooperation (GiZ), and the International Fund for Agricultural Development (IFAD).[14] This dataset is unique in systematically including project performance data, discussed in greater detail in footnote 5 above. To the extent possible, I have either coded myself or audited the coding by research assistants of thousands of individual project evaluation documents. In cases where IDOs provided data in summary form, evaluation documents have been located where possible for a subset of projects to confirm the accuracy of the transmitted data.

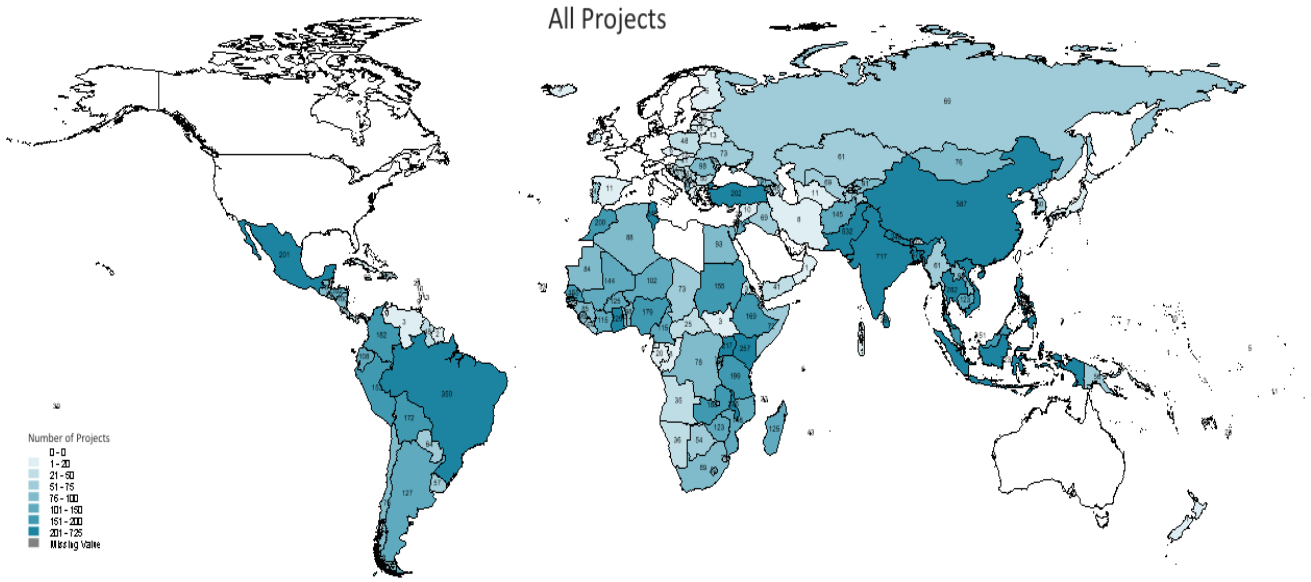
It is also possible, of course, for the data to be accurate in the sense of correctly reflecting an organization's assessment, but for that assessment to bear little connection to the actual performance of the project. The reliability of these data and the econometric means of systematically testing it will be discussed below; however, to the extent possible, I have also attempted to validate these evaluations by returning to primary documentation. The World Bank archives uniquely allows access, following an extended vetting and declassification process, to primary project documents, including correspondence between project staff and between World Bank staff and national governments, back-to-office reports and (often handwritten) notes by those monitoring projects, detailed financial and performance indicators, and the detailed evaluation reports that draw in part on these documents and which generate the outcome data for inclusion in this data set.

[14] I thank the European Commission, the UK's Department for International Development, the Asian Development Bank, the Global Fund for AIDS, Tuberculosis, and Malaria, and the German Development Bank for providing data. World Bank data used in this analysis are publicly available. Data for the Japanese International Cooperation Agency (JICA), the German Society for International Cooperation (GiZ), and the International Fund for Agricultural Development were assembled from individual project completion reports by Odesk-contracted research assistants under my supervision, with the compiled data then sent back to the originating agency for comment and/or correction. GiZ was kind enough to respond with corrections, which were incorporated; JICA wished it to be made clear that these data were generated by me rather than by JICA and that it is not responsible for them. I am currently in discussions with potential archives regarding how best to institutionalize the maintenance and updating of these data as a resource for researchers and practitioners.

For a small handful of projects (approximately a dozen), I have reviewed archival documents at length, focusing on cases in which similar projects (such as the first and second phases of a particular project in a particular country) received quite different ratings and one might therefore be particularly doubtful about the reliability of those ratings. In reviewing the archival documents (which in every case occurred many months after identifying the projects to be reviewed), I intentionally proceeded without knowledge of which projects were more or less successful and attempted to generate my own rating from the primary documentation. I cannot say that my rating on a six-point scale always matched the World Bank Independent Evaluation Group's score precisely; indeed, this would be troubling if true, since the Independent Evaluation Group also engages in conversations with project personnel, recipient government officials, and project beneficiaries, transcripts of which are not included in the archives. However, there were no cases in which my archivally generated rating differed by more than one point from the World Bank's official six-point rating. In short, success and failure do seem to be different and do map onto real features of the projects, at least in this sample.

Figure 2 below shows the distribution of projects across countries.

Figure 2: Overview of Projects in Dataset



Data Collection

There is no existing cross-IDO database of project outcome data. This data therefore had to be collected from each IDO in the sample individually. I approached every OECD bilateral aid agency in the top 10 in terms of the volume of official development assistance aid delivered directly (not via a multilateral agency) in 2010 (the last available data when this research commenced). This includes agencies in the US, Germany, the UK, France, Japan, Canada, Norway, Australia, Sweden, and Denmark. All of the biggest multilateral aid agencies (the European Commission, UN Development Programme, World Bank, African and Asian Development Banks, and Global Fund) were approached, as were other agencies with which I had links (for example, Irish Aid, International Fund for Agricultural Development, Food and Agriculture Organization, and International Monetary Fund).

There were two basic reasons to exclude an agency: either it did not collect project-level outcome data with a holistic project outcome rating (e.g., Canada, United States, Sweden, UNDP) or I could not get access to that data despite repeated attempts (e.g., African Development Bank).

Project Success

The key dependent variable in the analysis below is overall project success, a holistic rating undertaken by independent evaluators (either external evaluation contractors or independent evaluation units) or by project staff in project completion reports. For most IDOs, project success is an ordinal variable ranging from 1 to 6, with 6 being "Highly Satisfactory" and 1 being "Highly Unsatisfactory."[15] Some organizations evaluate projects on alternative scales (such as a four-point scale, with 4 being best); I transform all scales to be on a consistent six-point scale and employ IDO fixed effects in all models that use this six-point scale. I also employ a z-transformed version of this variable in the analysis when IDO fixed effects are absent. This process effectively de-means project success, just as employing IDO fixed effects would do.

The generation of z-scores and the use of IDO fixed effects helps to avoid spurious interpretations by putting each IDO's project results on an identical parallel scale.

[15] These are the World Bank's designations. No IDO has significantly different names/standards in this regard, which would in any case be removed by IDO fixed effects.

Interpreting directly between IDOs (for example, determining which IDO is most successful) is not possible with these data, given that they are based on separate measurement frameworks used by different IDOs. This work limits itself to claims about comparative relative performance; e.g. the performance of more autonomous IDOs is less affected by environmental unpredictability than is that of their less autonomous peers.

The underlying construct employed by different IDOs for measuring the success of projects is relatively consistent, with an OECD-wide standard for bilateral IDOs. A given project's rating is intended to incorporate a project's relevance, effectiveness, efficiency, sustainability, and impact.[16] Multilateral IDOs in the sample either use this standard explicitly or something closely related, such as the World Bank's focus on impact, sustainability, and quality of preparation and implementation.

Autonomy

Organizational autonomy is measured at the IDO level and is proxied in two ways: by a scale drawn from the Paris Declaration monitoring indicators and by a direct field survey of aid experts. These measures focus on organizational and field staff autonomy, as described above.

To build the autonomy scale, I take five measures from Paris Declaration monitoring surveys, a mechanism designed to monitor the commitments made by parties (including IDOs) to this international agreement to improve aid quality and impact. The measures used are indicative of either an IDO's propensity to devolve control over project implementation to recipient countries or the degree of autonomy the agency itself has relative to its political authorizing environment. The first group includes indicators of the extent to which an organization values control (and is thus a proxy for the field-level autonomy of the staff): the use of recipient-country public financial management (PFM) systems; the use of recipient-country procurement systems; and the avoidance of parallel implementation units.[17]

The second group includes indicators of the autonomy of the agency itself relative to its political authorizing environment, which, in turn, constrains the autonomy of the field

[16] http://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm.

[17] Parallel implementation units are separate units inside recipient countries that use donor standards and thus give donors more control/separation of funds or procurement.

staff. These indicators are, first, the degree to which aid is untied; that is, the extent to which it is not required that funds be spent on goods and services produced by the donor country. A high level of tying is a sign of an IDO's need to build political consensus for aid by serving domestic political constituencies and thus reflects more insecure footing in the IDO's political authorizing environment. The second is the predictability of the aid; that is, the extent to which ex-ante estimates of aid volume are proved accurate ex-post. Research suggests that variations are very donor-dependent and linked to IDO funding insecurity (Celasun and Walliser 2008; Desai and Kharas 2010). In many cases political meddling by actors in the political authorizing environment (e.g. members of Congress) also contributes to aid unpredictability (Interviews).

The two subscales are reasonably well correlated (.42) and principal components analysis yields a single component with relatively equal primary principal component loading from each measure. The overall scale has a Cronbach's alpha of .798.[18] This provides some confidence that these measures and the two subscales map the same essential facts regarding IDOs and thus provide suggestive evidence for my conjecture that the two levels of autonomy measured here are linked, in that field-level autonomy is largely endogenous to an organizations' relationship with its political authorizing environment. The results presented below are robust to dropping either subscale as well as to dropping any single measure. A dendrogram with the scale's component mapping is included in the Appendix (Table A6) and indicates scale de-composition to be as predicted given the underlying theory. The scale used here is a time-invariant measure formed from the average of the three waves (2005, 2007, and 2010) of the Paris Declaration survey.[19]

Given the critical role of measurement of autonomy to the empirical strategy, I attempted to validate the Paris Declaration scale with more direct measurement. I conducted a small-scale direct field survey of aid experts—individuals who have

[18] This is for the full autonomy scale with all IDOs; restricting the sample to IDOs with project outcome data, the Cronbach's alpha is .742.

[19] The autonomy scale is a simple average of the five measures except in the case of multilaterals (AsDB, WB, IFAD, EC), for which tied aid is not calculated; in these cases, the scale is an average of the remaining four measures. The three waves of Paris Declaration surveys (2005, 2007, 2010) are averaged here, in keeping with expert advice that these were effectively multiple mappings of the same facts, with insufficient time for organizations to change significantly between the first wave in 2005 and the last wave in 2010. Results are robust to using any wave and dropping any wave of the survey.

substantial development experience or whose jobs bring them into contact with a wide variety of donors.[20] A typical role for one of these respondents would be a senior position in the aid management unit of a recipient government's ministry of finance. Respondents rated a number of development agencies (including but not limited to those in the sample) on a scale of 1 to 7 in response to the following question:

> To what degree do you believe the in-country field office/bureau of the agencies listed below (presented in random order) are enabled to make decisions with a significant impact on the direction, nature, or quality of development projects? **Please only respond for those agencies you have had exposure to either via working with the agencies or discussions with colleagues**.

The survey N is 28, with varying coverage for different donors.[21] This is a small but well-informed sample; methodological studies suggest small numbers of high-quality respondents will prove more accurate than significantly larger samples that lack expertise (Leuffen, Shikano, and Walter 2012). Moreover, this survey is well correlated with the Paris Declaration-based scale (.71), providing an additional level of confidence in the accuracy of the Paris Declaration-based measure.

Environmental Unpredictability

Environmental unpredictability is measured via the State Fragility Index (SFI) of the Polity IV/Integrated Network for Societal Conflict Research (Center for Systemic Peace 2012). This index incorporates security, governance, economic development, and social development measures and has two subscales: effectiveness and legitimacy. The two subscales are highly correlated (.66) and Cronbach's alpha (.78) suggests that they map the

[20] The survey has a concentration of nationals and internationals with expertise in Liberia and South Africa (as these are case study countries for my related qualitative work). The survey N is limited by the small number of individuals in any given country who can make expert inter-donor comparisons (this generally excludes employees of development agencies, who can only speak intelligently regarding their own organization).

[21] This is the remaining N after removing surveys which were not substantively responsive or gave indications of nonsense answers; the two largest reasons for exclusion were (a) rating the Asian Development Bank despite stating that all relevant development-related work experience was in an African country (where the Asian Development Bank does not function) or (b) rating the survey's anchoring vignettes such that the most autonomous text was evaluated as being just as autonomous or less autonomous than the least autonomous text.

same underlying construct.[22] While the analysis below looks at the aggregate SFI measure, results are robust to dropping either subscale.

More fragile contexts are inherently less predictable; predictability and fragility are often linked explicitly in development practice, with practitioners speaking about the difficult and unpredictable nature of fragile states (Ghani, Lockhart, and Carnahan 2005; Institute of Development Studies 2014; Weijer 2012). Fragility is in some sense the likelihood that the current equilibrium will break down or change rapidly, but makes no claim as to what positive state of the world will replace it.

Sector

In order to determine project sectors for observability and contractibility, I use OECD Development Assistance Committee (DAC) sector and purpose codes, standard classifications that are usually assigned by the IDOs themselves in their databases/project reports or their reports on aid flows to DAC.[23] Even the more specific of these (the five-digit purpose codes) leave much to be desired. One can't look, for example, at the delivery of antiretroviral drugs to HIV/AIDS patients specifically, as the relevant sector (Sexually Transmitted Disease control including HIV/AIDS) includes such things as public awareness and social marketing campaigns, strengthening of countries' HIV/AIDS response programs, and projects that focus on prevention in addition to treatment, as well as entirely unrelated STDs such as syphilis. One might wish to zero in on vaccine delivery, but this is under a code (Basic Health Care) that also includes such things as nutrition services, support for nursing care, and strengthening of rural health systems. Thus, this work cannot systematically code sectors as observable or unobservable and will instead examine sectors (largely infrastructure) in which observability/contractibility is relatively clear and compare the results to those of related sectors that are less observable.

Addressing Potential Organizational Selection Out of Difficult Contexts/Sectors

In the original dataset employed below, two organizations—the Global Fund for Aids, Tuberculosis, and Malaria and the International Fund for Agricultural Development—work in particular sectors. Of the rest, all IDOs have projects in 10 of 16 of the broad

[22]In the sample data.

[23] In a small number (fewer than 5%) of cases, codes are assigned by me or by research assistants whom I supervised, based on the detailed contents of project reports.

sectors (Education, Health, and so on) coded in the data.[24] Four broad sectors have participation from all but one IDO. Only the two smallest sectors, "Communications" and "Business and Other Services"—accounting for only 3% (342 of 10,857) of the total projects for which sector codes are available— fail to have projects from two IDOs. We see, then, that donors are doing similar things across sectors. They are also doing them in the same countries. The majority of IDOs in this sample overlap in the majority of developing countries; the vast majority of projects in this sample (77%) occur in countries in which 3 or fewer IDOs are absent.

This speaks to a remarkable lack of selection into—and out of—countries and sectors in response to realized organizational performance that, in turn, provides a unique context for empirical examination. In any case, the empirical models employed below will include controls for both sector and recipient-country fixed effects, ensuring that any minor differences in sectoral or country focus are not driving the findings.

Summary Statistics of Key Variables

Table 2 below presents summary statistics for the variables that form the core of the analysis.

Table 2: Summary Statistics for Key Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Overall Project Success (6 pt scale)	14610	4.235	1.203	1	6
Overall Project Success (z scores)	14610	0	1	-3.53	2.011
State Fragility Index	9546	12.486	4.996	0	25
Project Size (USD Millions)	9957	29.194	74.299	.004	4015
Autonomy (from Paris Declaration scale)	14961	.654	.058	.564	.79
Autonomy (from expert survey)	13389	3.96	.516	3	6

The coverage of the State Fragility Index, one of the key covariates, only begins in 1994, thus limiting the analysis to the nearly 10,000 projects of that time period. However, this also limits the mismatch between the periodicity of this data and the Paris Declaration monitoring surveys from which the autonomy scale is drawn, which were conducted from 2005-2011.

[24] By "broad sectors," I mean the two-digit sectors of the DAC's sectoral classification scheme, excluding here debt relief and humanitarian assistance.

Any (constant) systematic differences amongst IDO evaluation criteria or measurement standards are addressed in two ways: by including IDO fixed effects in econometric models (generating results which leverage intra-IDO comparisons across projects) and by normalizing project ratings using IDO-specific z-scores where fixed effects are not employed.

RESULTS

This section lays out the primary findings then addresses potential econometric concerns.[25] Findings below are from fitting OLS models onto six-point scales of project success. In some cases, IDOs do not use a six-point scale, instead using, for example, a four-point scale; for this analysis, all scales are standardized to a six-point measure. The model for project *i* in recipient country *j* implemented by IDO *k* generalizes to

$$\text{Project Success}_{i,j,k} = \beta_1\text{*Environmental Unpredictability}_j + \beta_2\text{*Environmental Unpredictability}_j\text{*Autonomy}_k + \beta_3\text{*Controls}_i + \text{Fixed Effects}_j + \text{Fixed Effects}_k + \varepsilon_i.$$

Autonomy and Recipient Fragility

Table 3 reports the core findings. As expected, there is a robust and statistically significant negative relationship between level of state fragility and project success; environmental unpredictability is associated with less successful projects. This relationship is mitigated by IDO autonomy. More autonomous organizations have less pronounced negative relationships between state fragility and project success. These relationships are robust to the inclusion of project size as a control variable (under the logic that agencies might place differential attention—or give systematically different success ratings—to projects of different sizes).

[25] Style inspired by Faye and Niehaus (2012).

Table 3: Main Results on Unpredictability with Recipient, Sector FEs, and Project Size

DV: Project Success (6-pt scale)	(1)	(2)	(3)	(4)	(5)	(6)
State Fragility Index (SFI)	-0.186***	-0.185**	-0.159**	-0.156**	-0.116**	-0.117**
	(0.0339)	(0.0372)	(0.0380)	(0.0353)	(0.0352)	(0.0366)
Autonomy*SFI	0.228**	0.227**	0.201**	0.197**	0.117*	0.118*
	(0.0487)	(0.0508)	(0.0549)	(0.0459)	(0.0549)	(0.0560)
Project Size (USD Millions)		0.000690**		0.000625**		0.000829***
		(0.000168)		(0.000171)		(0.000252)
Constant	4.729***	4.742***	5.050***	4.786***	6.065***	6.174***
	(0.0366)	(0.0524)	(0.0324)	(0.0782)	(1.086)	(1.051)
IDO Fixed Effects	Y	Y	Y	Y	Y	Y
Recipient Fixed Effects	N	N	Y	Y	N	N
Sector Fixed Effects	N	N	N	N	Y	Y
R^2-Within	0.029	0.024	0.080	0.081	0.087	0.093
R^2-Between	0.048	0.086	0.062	0.101	0.277	0.513
Observations	9313	7248	9313	7248	7371	5447

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Models 3 and 4 in Table 3 incorporate recipient-country fixed effects, indicating that results are not being driven by the unique features of the heterogeneous distribution of each IDO's projects across countries. Models 5 and 6 do the same for sector fixed effects, controlling for sectors at the most fine-grained level available, the 223 unique five-digit OECD Development Assistance Committee Creditor Reporting System (CRS) purpose sectors. Findings are robust when focusing on differences in state fragility within countries over time or within sectors. These results should provide confidence that selection into and out of countries and sectors is not driving either the results or the consistency of the results.

Figure 3: Returns to Autonomy in Countries of Differential Environmental Unpredictability

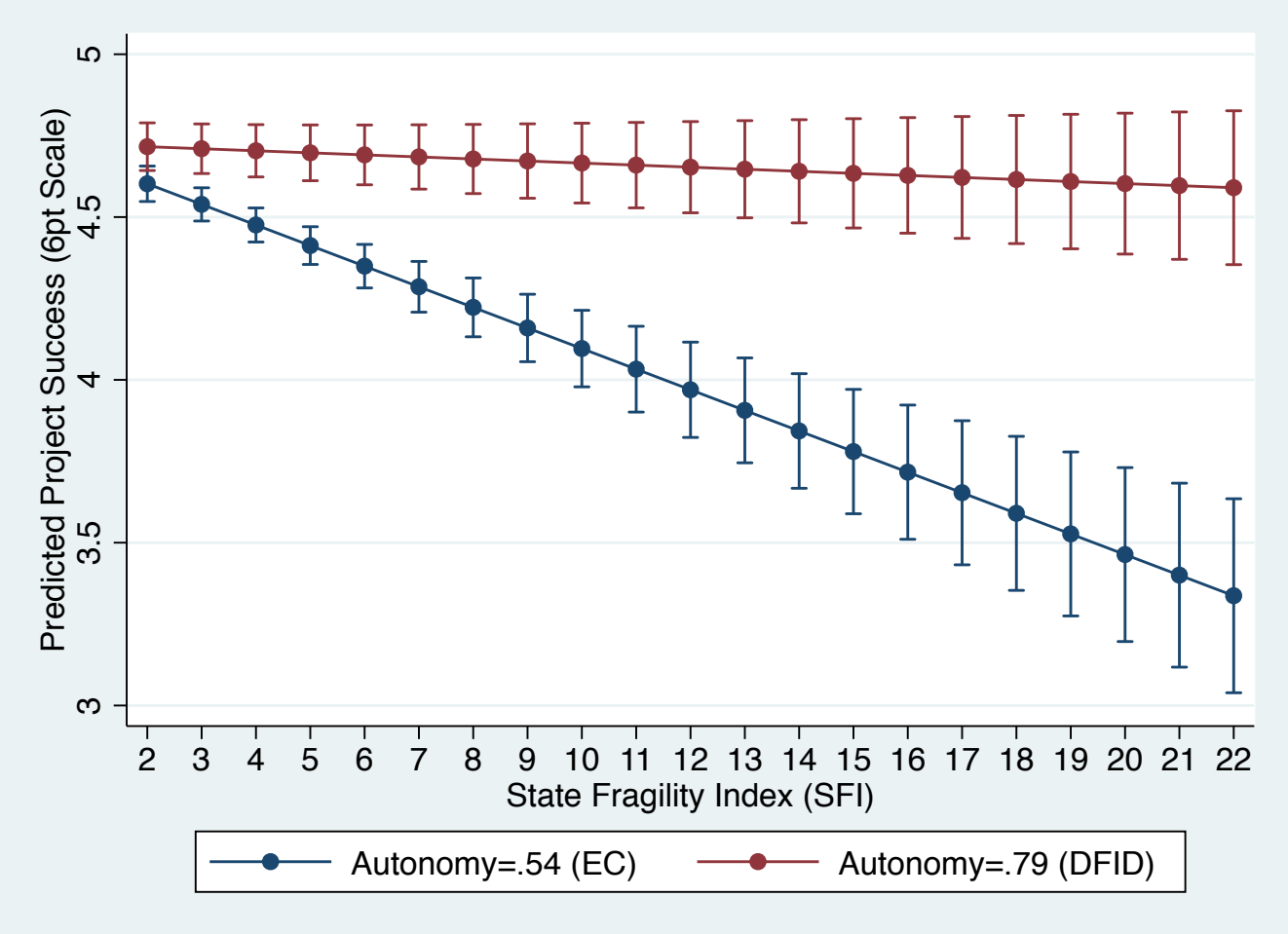


Figure 3 draws from Model 1 of Table 3 to graphically represent differential performance by autonomy, using the extremes on the autonomy scale in the sample. Given the lack of common evaluation standards across IDOs, one cannot interpret the results above as making any absolute claims regarding the superior or inferior performance of any IDO relative to any other.

Both high- and low-autonomy IDOs perform better in more predictable, stable contexts than they do in less predictable environments. More autonomous IDOs perform better than their less autonomous peers in less predictable contexts relative to *their own* performance in other contexts. While an IDO with autonomy comparable to that of the EC sees a bit over six-tenths of a point (or approximately 10% of the six-point outcome scale) difference between its performance in a state like Turkey (SFI=7, or one standard deviation

more stable than the mean) and its performance in a state like Rwanda (SFI=17, or one standard deviation below the mean), an IDO with autonomy comparable to that of DFID sees only about .03 of a point (or approximately .05% of the six-point outcome scale) in performance differential.

The model in Table 3 does not incorporate a base term for IDO autonomy; as a time-invariant measure at the IDO level, it is collinear to IDO fixed effects. For interpretive purposes, this is not a problem as this paper makes no claims about the direct effect of autonomy on project success. The inclusion of IDO fixed effects precludes any bias in the interaction term that might otherwise result from a failure to include the base term in the interaction. However, Appendix Table A1 replicates Table 3, incorporating the IDO-autonomy base term and dropping IDO fixed effects. While we cannot learn much from the coefficient on the base term (as the IDO-specific z-score outcome measure precludes any direct comparison between IDOs), it is worth noting that without IDO fixed effects, it becomes much easier to interpret the R^2 terms; Model 1 suggests that autonomy and state fragility (and their interaction) are jointly explaining a remarkably large share (R^2-between=.54) of the variance in differential normalized project success amongst IDOs.

Appendix Table A2 adds a series of fixed effects to the main findings. Inclusion of time fixed effects (either yearly or in five-year periods) does nothing to diminish the association between autonomy and recipient unpredictability. The result remains robust to including time*IDO fixed effects and time*recipient fixed effects.[26] These results should allay any concerns that the primary results are driven by heterogeneous IDO project performance over time or by heterogeneous entry of IDOs into and out of recipient countries over time.

Extensions

This work has argued that the gathering and incorporation of soft information is the primary channel through which autonomy impacts project performance. We might expect,

[26] The inclusion of time*recipient effects necessitates using five-year periods rather than individual years; at approximately 180 recipients*30 years, this generates nearly 5000 dummy variables and thus would severely restrict degrees of freedom/analytic leverage, not to mention requiring advanced computing capacity to generate output. The models in Appendix Table A2 do not include project size (though all findings are robust to its inclusion), as missing data on project size leads to significantly smaller samples when it is included and project size is of little substantive significance to the relationship between the key independent variables and project success.

then, the returns to having an in-country office to be higher for more autonomous IDOs, who are thus better able to incorporate soft information into decisions. Appendix Table A7 provides suggestive support for this hypothesis.

A thread of recent scholarship has argued that IDO support stimulates isomorphic mimicry in recipient-country governments, with the result of *de jure* reform but little *de facto* progress and a divorcing of formal organizational form from function (Andrews 2011b, 2013; Buntaine, Buch, and Parks 2013). One could interpret this finding as suggestive evidence that the same is true of the IDOs themselves; that while many IDOs open offices, it is only for the more autonomous IDOs that offices actually lead to improved project performance, presumably via better incorporation of soft information by properly placed field agents. If field agents are less autonomous, it is more difficult to translate the *de jure* organizational form of having an in-country office into something that contributes to *de facto* improvement in project performance.

Another way to investigate the relationship between unpredictability and autonomy this result would be via other proxies for environmental unpredictability beyond the state fragility index employed here, such as the World Bank (World Governance Indicators) measure of violence. This measure interacts with autonomy just as theory would predict, with more autonomous IDOs associated with increasing returns in more violent (and thus unpredictable) environments. But this result is not statistically significant and, when included in a model which also includes the state fragility index, the relationship between the interaction of violence*autonomy and project success becomes very weak.

One might also think that a more corrupt environment (as measured by Transparency International's Corruption Perception Index) is trickier to navigate without incorporating soft information and thus that autonomy should be more valuable for IDOs in more corrupt environments. But once again, the results are in the predicted direction but only weakly so and do not rise to statistical significance.

Autonomy and Task Domain Observability

Environmental unpredictability is not the only relevant factor in estimating the anticipated returns to soft information, and hence to autonomy. An anti-corruption program is very difficult to evaluate and measure and is therefore a context in which we

should expect to see quite large returns to incorporating soft information; this is less true of power plant construction, where each part of the process can be easily defined and measured. An IDO attempting to build a power plant can simply contract on observable quantifiable metrics, incentivizing staff to deliver; this would mitigate the need for soft information and thus for autonomy. For such tasks, navigation by measurement might indeed be the more effective strategy. Delivering dams and promoting democracy are very different tasks that may well call for different delivery mechanisms and levels of measurement relative to staff autonomy; that is, for a different optimal point on the navigation-by-measurement—navigation-by-judgment continuum.

Being able to contract on outcomes does not necessarily mean an IDO will do so, which adds noise to any attempt to observe the relationship between task-domain observability and the role of soft information. Indeed, significant forces in the aid community—including the World Bank's focus on Performance-Based Financing, the Center for Global Development-initiated push for Cash on Delivery, and, one might argue, much of the thrust of both the Gates Foundation and the US President's Emergency Plan for AIDS Relief—have argued that IDOs insufficiently contract on outcomes when they can and ought do so. Bill Gates, for example, has highlighted the importance of measuring vaccine transmission and coverage rates rather than simply sending out health personnel to conduct vaccine drives (Gates 2013).[27] If IDOs do not, in fact, manage based on observable outcomes when they can—perhaps focusing instead on input-based metrics—it is more ambiguous how we might expect the relationship between autonomy and project success to vary across the observability of task domain.

The messiness of foreign aid sector classifications further complicates this picture, as discussed above; sectors commonly include both the observable (such as antiretroviral drug delivery) and the less observable (such as public awareness and social outreach campaigns around HIV) in the same sector. The sectors are most straightforward with regard to tangible infrastructure, which is relatively externally observable and contractible.

[27] It is worth noting that, in the same document, Gates also seems to implicitly endorse this work's conditional view that measurement's role depends on its ability to provide timely, appropriate, nondistortionary feedback. He says, for example, "You can achieve amazing progress if you set a clear goal and find a measure that will drive progress toward that goal" (p.1), which seems to imply that a well-aligned measure is a necessary condition for measurement to be optimally beneficial.

Road and power line construction are clearly task domains for which audits and performance incentives can work and for which we can use the first best solution of contracting on outcomes.

Tables 4 and 5 below therefore focus, on the one hand, on purpose codes related to infrastructure construction or observable service delivery (for which we might not expect to see as strong a relationship between autonomy and outcome) and, on the other hand, on purpose codes which focus on related policy or administration tasks but are more difficult to observe. Focusing on related but difficult-to-observe domains helps to ensure that the results are not driven by something like the fact that it is much easier to deliver electricity than to deliver education.

Table 4: Relationship between Autonomy and State Fragility by Sector (Outcomes Easily Observed; Sector by CRS Code)

DV: Project Success (6-pt scale)	(1) Road Infrastructure & Transport	(2) Buliding Power Transmission Lines	(3) Agricultural Irrigation & Water	(4) Basic Drinking Water Supply & Sanitation
State Fragility Index (SFI)	-0.262	0.586*	-0.516	-0.298
	(0.352)	(0.128)	(0.343)	(0.152)
Autonomy*SFI	0.356	-0.958*	0.735	0.386
	(0.561)	(0.201)	(0.536)	(0.233)
Constant	5.010***	5.120***	4.588***	4.621***
	(0.161)	(0.0796)	(0.152)	(0.0486)
IDO Fixed Effects	Y	Y	Y	Y
R^2-Within	0.030	0.031	0.024	0.054
R^2-Between	0.018	0.263	0.153	0.000
Observations	469	167	165	271

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Relationship between Autonomy and State Fragility by Sector (Outcomes Difficult to Observe; Sector by CRS Code)

DV: Project Success (6-pt scale)	(1) Transportation Management	(2) Agricultural Policy & Administration	(3) Social/Welfare Services (Administration, Capacity Building)	(4) All Administration/ Policy Management
State Fragility Index (SFI)	-1.030***	-0.670***	-0.371***	-0.151***
	(0.0271)	(0.123)	(0.0178)	(0.0125)
Autonomy*SFI	1.716***	0.928**	0.561***	0.192***
	(0.0407)	(0.182)	(0.0305)	(0.0195)
Constant	2.978***	4.587***	4.508***	4.554***
	(0.0266)	(0.246)	(0.0288)	(0.0210)
IDO Fixed Effects	Y	Y	Y	Y
R^2-Within	0.234	0.077	0.025	0.019
R^2-Between	0.058	0.437	0.031	0.296
Observations	39	55	160	1530

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

There is no relationship between autonomy and project success in the first set of task domains, where the focus is on constructing something or delivering a tangible and relatively easily monitorable service, but the relationship is relatively strong in related administrative sectors. These results are consistent with my contention that task domain mediates the relationship between project success and environmental unpredictability.

One might worry that these results are driven by idiosyncratic features of the distribution of donors across project domains or by some nonsystematic mechanism other than sector observability. To alleviate this concern, Appendix Table A8 creates dummy variables for those sectors described as observable/unobservable in the tables above and considers them in the context of the data as a whole. The results confirm those in Tables 4 and 5.

While there is no evidence that navigation by measurement is the better organizational strategy in more observable task domains, neither is there evidence that navigation by judgment is better. This provides further evidence that considering the effects of measurement is critical in determining where measurement is likely to have a negative effect on project success—that is, in harder-to-observe task domains—and where its effects are likely to be more ambiguous and potentially beneficial. Soft information seems to matter to development success, with more autonomous agencies thus better able to manage more unpredictable contexts and task domains less tractable to navigation by measurement. This suggests that autonomy can have positive effects inasmuch as it provides support for the acquisition and use of soft information.

ROBUSTNESS

This work attempts to explore the data in a way that assuages as many concerns about the veracity of the analysis or its broader applicability as possible

One might be concerned that the autonomy measure is not actually mapping autonomy. As noted in the data description, I conducted a small survey of aid experts in the field who come into contact with a wide range of IDOs (largely as consultants or as employees of developing country governments) and thus can make expert inter-IDO assessments. The correlation between this survey measure and the autonomy scale drawn

from the Paris Declaration surveys is .71. Appendix Table A3 substitutes the survey measure of autonomy for that of the Paris Declaration-based measure; the results are similar, which should increase confidence in the Paris Declaration-based autonomy scale.

One might also worry, particularly given the small number of IDOs in this multilevel model, whether results are driven by features of the modeling. To address this concern, Table 6 below examines the relationship between autonomy and project success nonparametrically, summarizing the relationship between state fragility and project success for each donor in isolation; that is, using only data from one donor at a time and implementing nine different regressions.[28] In each case, the model is of the form

$$\text{Project Success}_{i,j} = \beta_1 * \text{State Fragility Index}_j + \varepsilon_i$$

IDOs are listed in order of ascending autonomy for ease of interpretation.

Table 6: Results from Running a Separate Regression for Each IDO[29]

IDO	Autonomy Scale Score from Paris Declaration Survey	Correlation between SFI & Success for this donor with only this donor's (Z-score) data in regression
EC	.564	-0.0246***
		(0.0088)
Global Fund	.603	-0.0471***
		(0.0087)
World Bank	.622	-0.0364***
		(0.0029)
Asian DB	.651	-0.0671***
		(0.0098)
JICA	.661	-0.0221*
		(0.0111)
GiZ	.674	-0.0525***
		(0.0199)
KfW	.674	-0.0331***
		(0.0063)
IFAD	.721	-0.0183
		(0.0363)
DFID	.790	-0.0019
		(0.0046)

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[28] This is intuitively similar to a rank-based regression.

[29] The Paris Declaration monitoring survey does not differentiate between institutions from a single country; thus GiZ and KfW (both arms of the German government) have the same autonomy score.

As expected, greater state fragility has a more negative and statistically significant relationship with project success for less autonomous donors. This confirms—using an approach that does not rely on the parameterization of the interaction term—that higher levels of autonomy mitigate the inverse relationship between the State Fragility Index and project success.

One might be worried that results are driven by quirks in the variance of outcomes. Appendix Table A9 examines this concern in a simple nonparametric manner, by dividing state fragility and autonomy scores at their respective means and then examining the variance in project success z-score by autonomy and state fragility quadrant, and finds no cause for concern. Table A9 also shows another nonparametric way of testing the intuition underlying the core findings. Both low- and high-autonomy IDOs do better in contexts of lower state fragility. However, the gap between low- and high-SFI contexts is larger for low-autonomy IDOs (approximately .26 SD) than for high-autonomy IDOs (.1 SD). This should give further confidence that the main results are not driven by idiosyncratic features of the modeling.

Another concern might be that these data rely on evaluations of project success made by the agencies themselves. One might worry that an agency with a fragile relationship with its political authorizing environment would, in addition to being less autonomous, have a greater incentive to self-evaluate projects to have been successes. Anecdotally, interviews suggest that such behavior occurs in at least some cases. Alternately, one might think that career-concerned agents have every incentive to evaluate their own projects as successes.

Either of these dynamics would reduce the variation in the outcome measure—the differential performance between agencies and within agencies across context, domain, and time. Either of these dynamics would therefore reduce the likelihood of Type I error (false positives) while increasing the likelihood of Type II error (false negatives) and thus ought not to diminish our confidence in the principal findings.

The involvement of independent evaluation units also mitigates against this type of dynamic. In cases where projects are evaluated by implementation staff, the frequent rotation of IDO staff also means that it is by no means certain that the staff involved in

project evaluation would see their careers best served by positive evaluations. In any case, Appendix Table A4 controls for the type of evaluation; that is, whether the data source is an internal review by project staff, a review conducted by an IDO's own independent evaluation unit, or a review conducted by an externally contracted evaluator.

Interestingly, Table A4 suggests that none of these particular types of evaluator evaluates projects systematically differently than any other. The relationship between autonomy and state fragility remains unchanged, giving some comfort that evaluation bias is not driving the results.

Placebo Tests

One might be concerned that, despite the survey of aid experts, what this paper calls autonomy is in fact mapping a more general construct of good donor practice. If this were the case, the results might provide reassurance that the consensus wisdom on what constitutes good development—articulated, in part, by the very Paris Declaration from whose monitoring surveys the autonomy measure employed above is constructed—is on point. These results would not, however, suggest that organizational autonomy is an important factor, nor necessarily that soft information is critical in aid delivery.

To address this, I run a series of placebo tests, examining whether other measures of good donor conduct yield the same relationship with the data observed for the autonomy measure. Table 7 gives summary statistics on two alternate scales which aim to measure and compare IDOs' practices: the Commitment to Development Index (CDI) and the Quality of Official Development Assistance (QuODA) (Birdsall and Kharas 2010).[30] In both cases, I also look at the subscales that seem most relevant—CDI's Aid component and QuODA's Maximizing Efficiency and Fostering Institutions subscales. There is some overlap between these measures and my autonomy scale (which is repeated below for ease of reference). The CDI aid index penalizes tied aid (a component of the autonomy scale); untied aid is also a component of QuODA's Maximizing Efficiency measure. QuODA's Fostering Institutions

[30] The CDI is an annual product of the Center for Global Development; the QuODA is an occasional product of the Brookings Institution in collaboration with the Center for Global Development (the last wave was in 2009). The CDI has a number of components (Aid, Investment, Migration, Environment, Security, and Technology) which assess the commitment of nations (multilateral organizations such as the World Bank are not included) to assisting the developing world. The QuODA has four components: Maximizing Efficiency, Transparency and Learning, Reducing Burden, and Fostering Institutions. All components of both the CDI and the QuODA involve a variety of submeasures. CDI is available here; QuODA is available here.

component draws from the Paris Declaration monitoring surveys as well, incorporating avoidance of project implementation units and use of recipient-country systems.[31]

Table 7: Summary Statistics for Alternate Scales

Variable	Obs	Mean	Std. Dev.	Min	Max
Autonomy scale (from Paris Declaration Surveys)	14961	.654	.058	.564	.79
Commitment to Development Index (CDI) 2012 Overall	4999	5.226	.763	3.4	5.7
Commitment to Development Index (CDI) 2012 Aid	4999	4.679	1.839	1.6	6.8
Quality of Development Assistance (QuODA) 2009 Overall	14831	.528	.138	.043	.655
Quality of Development Assistance (QuODA) 2009 Maximizing Efficiency	14831	.154	.268	-.89	.51
Quality of Development Assistance (QuODA) 2009 Fostering Institutions	14831	.39	.279	-.1	.93

Table 8 re-runs the primary model employed above (Table 3, Model 1), substituting each of these measures in turn for the autonomy scale; scales are standardized to allow for direct comparison across scales.

Table 8: Relationship between Project Success and (Normalized) Alternative Scales in Interaction with State Fragility

	(1) Autonomy	(2) CDI Overall	(3) CDI Aid	(4) Quoda Overall	(5) Quoda Max Eff	(6) Quoda Foster Inst
State Fragility Index (SFI)	-0.186***	-0.0167	-0.0208*	-0.0357***	-0.0379***	-0.0343***
	(0.0339)	(0.00928)	(0.00583)	(0.00590)	(0.00635)	(0.00625)
Scale in Column Title*SFI	0.228**	0.00788	0.0143	-0.0110	-0.0111	0.0121
	(0.0487)	(0.00505)	(0.00536)	(0.00542)	(0.00690)	(0.00647)
Constant	4.729***	4.782***	4.795***	4.717***	4.748***	4.706***
	(0.0366)	(0.127)	(0.0640)	(0.0897)	(0.0875)	(0.0917)
IDO Fixed Effects	Y	Y	Y	Y	Y	Y
Recipient Fixed Effects	N	N	N	N	N	N
R^2-within	0.03	0.01	0.00	0.02	0.02	0.02
R^2-between	0.06	0.03	0.03	0.03	0.14	0.17
Observations	9313	3627	3627	9205	9205	9205

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

None of the other measures have anywhere near the strength of association of the autonomy scale. In interaction with state fragility, a better QuODA overall score and a better score on QuODA's Maximizing Efficiency subscale moves in the opposite direction as that of autonomy, with higher scores associated with a stronger relationship between state fragility and evaluated project success. The Maximizing Efficiency subscale contains measures such as the ratio of project administrative costs to total project costs, which one could think of as a sign of navigation by measurement rather than navigation by judgment;

[31] This last measure combines the procurement and public financial management measures I use in the autonomy scale.

it is therefore not entirely surprising that this scale moves in the opposite direction, with higher scores on Maximizing Efficiency associated with greater declines in performance in more fragile states. QuODA's Fostering Institutions measure and CDI's Aid measure—the two measures below whose indicators most overlap with those of the Paris Declaration-based autonomy scale—move in the same direction as autonomy but with very small point estimates which are not statistically significant.

This should give reassurance regarding the uniqueness of the autonomy measure's relationship with project success in conditions of differential environmental predictability, and thus the importance of soft information in the development production process.

In addition to the robustness checks discussed here, the results above are robust to:

- Using ordered logit models on six-point project outcome scales (rather than OLS)
- Using z-scores as outcomes (rather than the six-point scale where employed)
- Compressing success and failure to a binary outcome and employing logit models
- Restricting SFI to common support; that is, only the range of SFI realized in all donors' data (2-22, rather than 0-25 in the main analysis)
- Dropping the latter two waves of the Paris Declaration survey in generating the autonomy measure (to allay concerns that donors responded to measurement by changing their practices)
- Dropping any individual IDO from the sample
- Double-clustering standard errors at the IDO-recipient level (rather than clustering on IDO alone)[32]
- Dropping either subscale of state fragility (legitimacy or effectiveness)
- Using any of the four domains of state fragility (security, political, economic, or social)

[32] Double-clustering is achieved via Cameron, Gelbach, and Miller's *cgmreg* (2006).

Sample Selection and Generalizability

As described in the data section, inclusion in the sample requires a willingness to make results public or to disclose them to me. It also requires that an agency actually collect a holistic project-level indicator of success, which not all of them do. (USAID and UNDP could not be included because they do not generate such an indicator.) This makes the IDOs included in this analysis a convenience sample and thus raises concerns regarding broader generalizability.

To the extent that both organizational measurement decisions and, particularly, the willingness to make data public are plausibly correlated to an agency's autonomy—and Table A5 in the Appendix, which lists agencies by autonomy, suggests they may well be—this certainly is a threat to generalizability that must be considered in examining these quantitative results in isolation.[33] That said, it seems that the most straightforward effect of this type of sample selection would be to bias the sample away from the least autonomous agencies, who would have the least stable relationships with their political authorizing environments and as a result might be least likely to make information public. This would make findings in favor of the mooted hypotheses *less* likely, particularly if one were to believe that the "true" shape of the relationship between autonomy and success is an inverted parabola (see footnote 9).

Conclusion

There is a real tradeoff between navigation by judgment and navigation by measurement, with the optimal strategy for a given project depending critically on features of the environment. Autonomy is critical in facilitating organizational responsiveness to complex and unpredictable environments.

How foreign aid is delivered matters. It matters not just as an abstract concern regarding efficiency but tangibly to the lives of literally hundreds of millions of people. The dimensions along which navigation by judgment and navigation by measurement augur for better or worse organizational performance—argued here to be task contractibility and environmental unpredictability—matter well beyond the confines of IDOs, with potential

[33] Work using qualitative case study data examining the same hypotheses, referenced above, is not subject to the same concern and finds results consistent with those of this work.

relevance to a range of organizations, particularly those that often work in novel and complex contexts or task domains.

This work finds that more autonomous IDOs—those that navigate by judgment to a greater degree—see their performance decline less in more fragile contexts than does the performance of their less autonomous peers that navigate by measurement. Variation in authorizing environments and in the lack of "slack" between organization and authorizers accounts for much of these differences in realized organizational autonomy, with quite substantial potential impacts on development outcomes and consequently on developmental trajectories and conflicts.

These finding rely on an original dataset, the world's largest such aid project performance dataset. I intend for this data to soon enter the public domain, where it can be of use to other scholars of international organizations, comparative politics, and foreign aid.

In some instances, output measurement may well improve organizational performance; when working in relatively predictable environments and relatively observable task domains, navigation by measurement may well be the superior strategy. In less predictable environments and less observable task domains, this measurement crowds out the organization's ability to incorporate soft information. The more unpredictable the environment, the more important it is to have power and decision-making sit with those most likely to see change coming and respond proactively—that is, to navigate by judgment. This means not simply formally decentralizing decision making by creating an in-country office, but also relying on that office to make decisions of consequence.

There are, of course, countless sources of variance in project outcomes. Even on the most charitable reading of the results, autonomy and state fragility jointly explain no more than 55% of the variance in (normalized) inter-IDO project success in the sample. Poor institutional environments, lack of political will, and corruption are commonly mooted as causal of foreign aid delivery failure and this paper does nothing to suggest they are not.[34]

[34] In related qualitative case study work, I argue that project selection and development is endogenous to IDO autonomy. I further argue that a significant share of the variance in realized political will is not just a matter of who the recipient-country actors are but also of the process by which they are engaged and the flexibility of the project design. I would argue, therefore, that realized political will in a project portfolio is in part (though not entirely) a function of IDO autonomy.

An IDO's organizational features differ from these items, however, in that they are wholly controlled by those providing the funds. Organizational design is the "low-hanging fruit" of international development, the factor in development outcomes arguably most changeable by Western governments and polities. By the estimate of one interviewee with long experience at the United Nations Development Programme (UNDP), approximately 30% of all staff time is spent on measurement design and reporting (Interviews). For fiscal year 2013, this works out to approximately $350 million;[35] if a move towards more navigation by judgment and less navigation by output measurement were to reduce this figure by even 25%, the administrative savings—not to mention the efficiency gains from greater impact of UNDP's nearly nine billion dollars in annual development spending—would be quite significant. Optimal design will not ensure that foreign aid is universally successful, but it will ensure that those features that are wholly under the control of donor countries are calibrated so as to give aid the best chance to realize maximum impact.

IDOs—and the aid industry more broadly—offer scholars of organizational strategy and behavior the prospect of a relatively unexplored area where one might expect large effect sizes, novel contexts in which to generate theory or explore its boundaries, and substantively significant potential impacts for research findings. Potential margins of future research include intra-IDO autonomy within agencies, projects, and countries; hiring and staff review processes and incentives; performance measurement (both in the human resources sense and in the organizational/project performance sense); staff rotation practices; and the role of staff quality,[36] including the feedback loop between staff quality and work environment.

Where output measurement and tight control by distant principals work well, management by measurement should be used to better deliver vaccines or more efficiently build electricity transmission infrastructure. But where foreign aid has the potential to make the most difference - in the most fragile states – measurement is the least useful, with

[35] This is drawn from UNDP's estimates of administrative and policy coordination cost (United Nations Development Programme 2013, p. 6).

[36] One recent paper from the World Bank research department finds that who supervises a project—that is, individual-level fixed effects—plays a greater role in project success than any other feature of the project (Denizer, Kaufmann, and Kraay 2013).

navigation by judgment the optimal strategy. My findings suggest that not only are we not doing all we can to improve aid delivery, the move towards measurement and control across all aid sectors in recent years may actually be making things worse in some sectors. Measurement may lead to the construction of many successful dams but leave recipient countries without the capacity building necessary to manage and maintain those dams or to put the electricity to use. If our drive for results leads us to control aid too tightly, we may end up accomplishing precisely the opposite of what we intend.

Appendix

Table A1: Main Results including base autonomy term with Recipient-country, Sector Fixed Effects

DV: Project Success (Z-score)	(1)	(2)	(3)	(4)	(5)	(6)
Autonomy (PD Scale)	-1.859**	-2.295***	-1.892***	-2.184***	-0.331	-0.584
	(0.664)	(0.493)	(0.403)	(0.294)	(0.675)	(0.714)
State Fragility Index (SFI)	-0.141***	-0.159***	-0.133***	-0.142***	-0.0924**	-0.103***
	(0.0260)	(0.0260)	(0.0230)	(0.0183)	(0.0290)	(0.0310)
Autonomy*SFI	0.170***	0.194***	0.165***	0.177***	0.0934*	0.107*
	(0.0392)	(0.0353)	(0.0343)	(0.0279)	(0.0452)	(0.0475)
Project Size (USD Millions)		0.000617***		0.000436*		0.000518*
		(0.000129)		(0.000209)		(0.000208)
Constant	1.587***	1.892***	1.207**	1.401**	1.578	1.760
	(0.433)	(0.361)	(0.454)	(0.436)	(1.018)	(1.026)
IDO Fixed Effects	N	N	N	N	N	N
Recipient Fixed Effects	N	N	Y	Y	N	N
Sector Fixed Effects	N	N	N	N	Y	Y
R^2-Within	0.026	0.022	0.078	0.079	0.088	0.095
R^2-Between	0.536	0.054	0.003	0.057	0.105	0.337
Observations	9313	7248	9313	7248	7371	5447

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A2: Expanding Fixed Effects for Robustness

DV: Project Success (6-pt scale)	(1)	(2)	(3)	(4)
State Fragility Index (SFI)	-0.185***	-0.183***	-0.100*	-0.0934*
	(0.0333)	(0.0347)	(0.0342)	(0.0359)
Autonomy*SFI	0.227**	0.222**	0.161**	0.151**
	(0.0475)	(0.0499)	(0.0347)	(0.0369)
Constant	4.720***	4.294***	3.317***	2.947***
	(0.0847)	(0.0379)	(0.437)	(0.459)
IDO Fixed Effects	Y	Y	Y	Y
Year Fixed Effects	Y	Y	N	N
Year*IDO Fixed Effects	N	Y	N	N
5-yr 'bin' Fixed Effects	N	N	Y	Y
Recipient Fixed Effects	N	N	Y	Y
Recipient* 5-yr bin FEs	N	N	Y	Y
IDO*5-yr bin FEs	N	N	N	Y
R^2-Within	0.031	0.048	0.145	0.149
R^2-Between	0.063	0.014	0.073	0.128
Observations	9313	9313	9313	9313

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A3: Robustness to use of Survey measure

DV:	(1) 6pt scale	(2) Z-score	(3) 6pt scale	(4) Z-score
State Fragility Index (SFI)	-0.101***	-0.0845***	-0.0750***	-0.0717***
	(0.0170)	(0.0144)	(0.0205)	(0.0173)
SFI*Autonomy (Survey)	0.0167***	0.0144***	0.0121**	0.0117**
	(0.00417)	(0.00352)	(0.00467)	(0.00401)
Autonomy (Survey)		-0.140**		-0.130*
		(0.0478)		(0.0536)
Constant	4.743***	0.882***	5.109***	0.501
	(0.0326)	(0.193)	(1.076)	(0.263)
IDO Fixed Effects	Y	N	Y	N
Recipient Fixed Effects	N	N	Y	Y
R^2-Within	0.025	0.022	0.076	0.073
R^2-Between	0.129	0.449	0.228	0.213
Observations	8314	8314	8314	8314

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A4: Controlling for Evaluation Type

	(1) 6pt scale	(2) Z-score	(3) 6pt scale	(4) Z-score
State Fragility Index (SFI)	-0.114***	-0.0959***	-0.0907**	-0.0777***
	(0.0132)	(0.00920)	(0.0186)	(0.0139)
Autonomy*SFI	0.112***	0.103***	0.108**	0.0998***
	(0.0186)	(0.0122)	(0.0292)	(0.0206)
Internal Eval	-0.175	-0.220	-0.0927	-0.0751
	(0.264)	(0.209)	(0.274)	(0.220)
Independent Eval Office	-0.207	0.0000352	-0.0660	0.166
	(0.156)	(0.183)	(0.168)	(0.190)
Internal Eval*SFI	0.0233	0.0109	0.0184	0.00755
	(0.0136)	(0.0100)	(0.0165)	(0.0150)
Independent Eval*SFI	-0.00241	-0.00562	-0.0128	-0.0142
	(0.0112)	(0.00805)	(0.0127)	(0.0124)
Autonomy (PD Scale)		1.541		0.307
		(3.968)		(2.688)
Constant	4.855***	1.066***	5.074***	0.609
	(0.180)	(0.202)	(0.0626)	(0.336)
IDO Fixed Effects	Y	N	Y	N
Recipient Fixed Effects	N	N	Y	Y
R^2-Within	0.030	0.026	0.081	0.077
R^2-Between	0.388	0.241	0.506	0.004
Observations	8775	8775	8775	8775

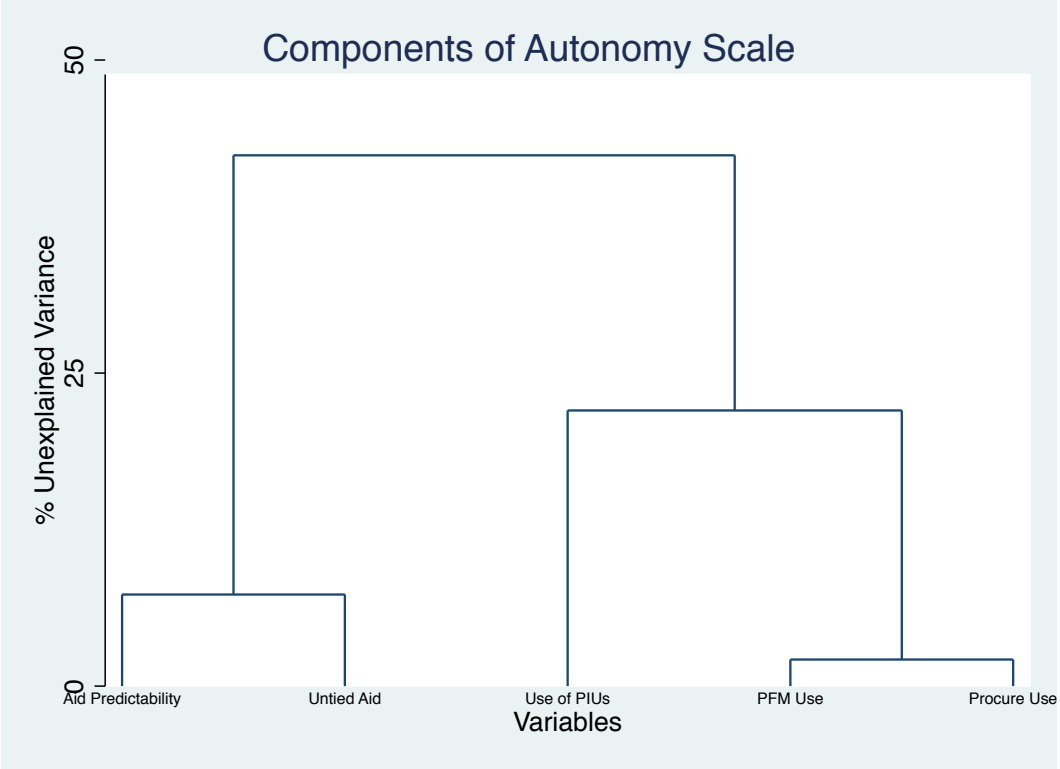
Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A5: Full List of Countries' Autonomy Score (in-sample donors' scores/ranks in **BOLD)**

Donor	Autonomy Score	Rank
Ireland	0.8499132	1
Norway	0.7996858	2
DFID	**0.7901573**	**3**
Netherlands	0.7806054	4
IFAD	**0.7206322**	**5**
Sweden	0.7131852	6
IMF	0.7058333	7
Finland	0.7003072	8
Denmark	0.6982759	9
KfW/GiZ	**0.6742818**	**10**
Canada	0.6672894	11
JICA	**0.6614253**	**12**
AsianDB	**0.6515805**	**13**
France	0.6469732	14
WB	**0.621796**	**15**
New Zealand	0.6033334	16
Switzerland	0.6032289	17
GFATM	**0.6030172**	**18**
Austria	0.5852491	19
EU	**0.5644109**	**20**
Spain	0.5397114	21
Belgium	0.528046	22
Luxembourg	0.5074713	23
African Dev. Bank	0.5063793	24
Italy	0.5037701	25
Portugal	0.4723678	26
Australia	0.4676092	27
Korea	0.3994828	28
United States	0.3564023	29
InterAmer.Dev.Bank	0.3320402	30
GAVI Alliance	0.3291667	31
Turkey	0.2852682	32
United Nations	0.2649928	33

Table A6: Dendrogram with the loading of each measure in the autonomy scale



Effect of Having an Office

For a subset of six IDOs (the AsDB, DFID, IFAD, JICA, KfW, and GiZ) I was able to gather data regarding the presence of country offices. This data is quite messy, with it frequently difficult to determine when precisely in-country offices opened or closed. The analysis presented in Table A7 assumes that where opening or closing dates are unknown offices presently open always existed. This is surely inaccurate in many cases, and thus adds additional noise.

Table A7: Incorporating the Presence of a Country Office

DV: Project Success (Z-score)	(1)	(2)
State Fragility Index (SFI)	-0.155***	-0.152***
	(0.0151)	(0.0335)
autonomy*office	0.824**	1.114**
	(0.261)	(0.350)
Autonomy*SFI	0.190***	0.194***
	(0.0224)	(0.0468)
Autonomy (PD Scale)	-2.791***	-3.054***
	(0.545)	(0.711)
office	-0.568**	-0.752**
	(0.210)	(0.243)
Constant	2.236***	2.078***
	(0.396)	(0.621)
IDO Fixed Effects	N	N
Recipient Fixed Effects	N	Y
R^2-Within	0.026	0.080
R^2-Between	0.657	0.008
Observations	7992	7992

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

While the net effect of office is somewhat ambiguous over the sample as a whole (a post-hoc F test finds office and the office-autonomy interaction are not jointly significant), the interaction between autonomy and the presence of an office suggests that there are indeed increasing returns to having an office present for more autonomous IDOs. Put another way, having an office has no observed relationship with project success overall, but there is indication that when an agency is more autonomous having an in-country office does indeed lead to projects in that country performing better relative to that IDO's projects in other countries where it does not have an office.

While far from ironclad, the increased returns to opening an office for more autonomous IDOs provides some suggestive evidence that soft information and the ability of an IDO to incorporate same may indeed be operative in generating the observed relationship between autonomy and project success.

Sector Observability in triple-interaction

Table A8: Sector Observability in the Full Model

DV: Project Success (6pt scale)	(1)	(2)
Observable*Autonomy*sfi	0.0721	0.0938
	(0.116)	(0.119)
Unobservable*Autonomy*sfi	0.0357***	0.0325**
	(0.00654)	(0.00820)
State Fragility Index (SFI)	-0.189***	-0.162**
	(0.0341)	(0.0373)
Autonomy*SFI	0.227**	0.202**
	(0.0482)	(0.0545)
Observable*sfi	-0.0430	-0.0498
	(0.0727)	(0.0763)
Unobservable*sfi	-0.00817	-0.00669
	(0.00858)	(0.00696)
Observable*Autonomy	-0.0117	-0.159*
	(0.104)	(0.0642)
Unobservable*Autonomy	-0.198	-0.167*
	(0.0946)	(0.0722)
Constant	4.753***	5.056***
	(0.0485)	(0.0303)
IDO Fixed Effects	Y	Y
Recipient Fixed Effects	N	Y
R^2-Within	0.030	0.082
R^2-Between	0.040	0.050
Observations	9313	9313

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

* p<0.1; ** p<0.05; *** p<0.01

These results confirm those of Tables 4 & 5 in the main text. Looking at the triple-interactions of the observable/unobservable dummies with autonomy and state fragility, there is no consistent relationship between the interaction of state fragility and autonomy in the relatively observable sectors. That relationship is, however, present in the related sectors where outcomes are more difficult to observe. Only the sectors used in tables 4 and

5 are coded as observable and unobservable; the omitted category contains all other sectors.

Examining the Variance/Results by SFI-Autonomy Quadrant

By calculation, the Z-score outcome measure has mean 0 and standard deviation 1 for each donor. The table below is designed primarily to examine if the variance in this measure differs systematically along SFI and Autonomy axes, thus potentially distorting the interpretation of OLS results. The question, then, is whether any of the quadrants deviate substantially enough from 1 to cause concern.

Table A9: Examining the average project outcome (z-score) and standard deviation in project success by autonomy and SFI Quadrant

	Low Autonomy	High Autonomy
Low SFI	.181 (.882)	.076 (.966)
High SFI	-.080 (1.038)	-.039 (1.014)

Given the large N, the analysis can of course confirm that that these variances are not equal (even the difference between 1.038 and 1.014 is significant at the 95% level); the question is whether they are substantively different enough to potentially bias results. I would argue the answer to this is in the negative.

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