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Does Budget Transparency Lead to Stronger Human Development Outcomes and Commitments to Economic and Social Rights?

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1 Introduction

In the last two decades, growing attention has been paid to the quality of governance and institutions to explain development performance of different countries. Though much of this work has focused on economic governance and its impacts on growth, another set of work has been concerned with democratic governance and its impact on human development and poverty reduction. One of the important findings of poverty research of the 1990s has been to identify lack of voice as a source of poverty; for example, the World Bank's World Development Report 2000/2001 argued that empowerment is one of the three pillars of an attack on poverty together with security and opportunity. In this context improving the quality of the budget process in terms of transparency, citizen participation, and responsiveness to the needs of the poor people has emerged as a priority objective in development policy. Since the 1990s civil society advocacy groups have used the budget as an instrument for policy change. Donor agencies have emphasized improving budget processes including their transparency, accountability and participatory aspects as development goals. Academics have studied the budget processes as part of the socio-political dynamics of development and poverty reduction. Participatory budgeting in Porto Alegre, gender budgets, and budget audits by citizens group MKSS in Rajastan are just a few of the examples. An important body of literature has grown on budget accountability and participatory processes as aspects of democratic governance.[4] Nonetheless, the literature is still new and the empirical evidence on the impact of budget transparency and participation are limited to a handful of specific cases, each with a unique context. The efforts to improve budget accountability are predicated on the assumption that improving budget transparency is not only an important goal in itself, but that it would achieve better development outcomes for people, or human development. But this remains a hypothesis that has not been tested.

The aim of this paper is to explore the relationship between the quality of the budget process and human development outcomes. It looks in particular at at the relationship between the OBI and human development as measured by the Human Development Index (HDI) and a number of related human development indicators, as well as the Economic and Social Rights Fulfillment Index that measures government commitment to economic and social rights.

This paper begins with a review of relevant literature on the connections between institutions and development broadly and between budget transparency and human development more specifically. Against this theoretical backdrop, we construct our own framework which links budget transparency to accountability for economic and social rights. We use a variety of techniques to look for connections between budget transparency as measured by the OBI and a broad range of indicators of development outcomes.

[4] For brief summaries of some of this literature, see Carlitz, Ruth, Paolo de Renzio, Warren Krafchik, and Vivek Ramkumar, "Budget Transparency Around the World: Results from the 2008 Open Budget Survey," OECD Journal on Budgeting, vol. 9, no. 2 (September 2009), pp. 82-98; and Robinson, Mark (ed), Budeting for the Poor (Basingstoke: Palgrave Macmillan, 2008).

2 Democratic Institutions as a Determinant of Growth and Human Development Outcomes

A large and growing literature has emerged on the relationship between democratic institutions and development. In this section, we survey the most important findings that have emerged on democracy and development, first broadly defined, and second more specifically focusing on budgets.

2.1 Democracy, Growth and Poverty

The literature linking democratic governance and economic growth dates back at least as far back as the middle part of the last century when two very separate claims surfaced in the academic literature. One claim articulated by scholars such as de Schweinitz (1959) and Huntington (1968) held that democracy could inhibit national economic growth by enacting pro-poor policies to increase consumption at the cost of reducing investment; investment being seen to be a better driver of economic growth. Lipset, writing in 1959, approached the issue from the opposite causal direction, theorizing that rising incomes in developing countries increase the likelihood that those states would move towards democracy (1959).

An authoritative study by Przeworski et al. (2000) into the links between regime type and development outcomes (mostly economic) concluded that there was indeed no hard link between democratic governance and economic growth or between growth and greater democratization. However, the study noted that birth rates do tend to fall in countries governed by durable democratic regimes which tends to increase the value of GDP per capita in democracies, if not actually aggregate GDP itself. Acemoglu et al. (2008) used existing measures of democracy, including those by Polity IV and Freedom House, to question the assumption that income has a causal effect on democracy. Using a variety of statistical modeling techniques, the authors concluded that, despite the strong cross-sectional correlation between income and various measures of democracy which we also observe, a variety of historical factors drive changes in regime type, rather than income.

Drawing on the work of Przeworski and others and noting that the work of reducing poverty is related but separate task from stimulating economic growth, Varshney (2005) has argued that some of recent history's greatest poverty reduction successes (East and South-East Asian "Tiger" economies) and most egregious development failures (Zaire under Mobutu or Mugabe's Zimbabwe more recently) have been presided over by non-democratic governments. Developing countries governed democratically have historically occupied a less sensational middle ground in which both extremes have largely been avoided.

Varshney argues that democracies do indeed provide opportunities for the poor to place demands on government for the enactment of pro-poor and poverty alleviation programs. However, governments tend to resort to "direct" policy responses (social transfers, land reform) which may have short-term benefits as opposed to "indirect" responses which geared more at leveraging economic growth over

the long-term into poverty reduction. This preference is largely driven by the electoral appeal of short-term measures that offer the government a chance to show the electorate that it is "doing something" about poverty. Ethnic cleavages in many developing countries have also hindered the development of class-based movements of the poor to present a unified demand that the state prioritize poverty reduction.

Another reason that countries with democratic regimes have avoided some of the worst human development failures is the relationship behind democratic freedoms and famine developed by Amartya Sen. Sen (1989) has famously demonstrated that a political opposition and a free press help act as an early-warning system about food shortages in democratic countries which help spur the government to action and / or exact a high political price on the government for inaction in the face of famine.

Finally, democratic governance which is truly participatory can empower citizens to make demands upon the state for the fulfillment of their human rights, civil and political and economic and social. As the United National Development Programme noted in its 2002 human development report, participation in democratic decision-making is a human right in and of itself and governmental systems which are open to citizen participation become platforms upon which citizens can make demands that government institute pro-poor policies and a pro-development agenda.

2.2 The Role of Open Budgets

Open budgeting matters for development and for human rights fulfillment for two primary reasons. First, the disclosure of budget information is a fundamental part of the overall accountability of any government and a process through which a vital disclosure of information about the spending priorities of the government is achieved. Budgeting which is open to public scrutiny and input is an essential cornerstone of overall governmental accountability to its citizens which can help improve the effectiveness of policies designed to reduce poverty and improve other important development outcomes. Sufficient information about different stages of the budget process that governments make available to citizens, civil society and the media is a major determinant of the extent to which the public can monitor and analyze budgetary policy and hold the government to account for its choices (OBI, 2008). Accountability involves "accounting for" government decisions and actions and offering citizens the opportunity to influence a change in direction if these decisions run counter to the public perception of what government should be doing. This "corrective" mechanism can include elections to replace unresponsive governments or more direct means of citizen participation in decision-making such as engagement with budgetary priority-setting (UNIFEM, 2008; IBP, 2008). Secondly, the allocation of resources to specific sectors and priorities is a primary, though not the only, means to achieving human development ends and the fulfillment of economic and social human rights.

International organizations such as UNICEF have also stressed the importance of the budget as a means for realization of human rights. Democratic participation on the part of citizens in decision

making, including decisions about the allocation of resources, is a human right in its own right. When popular participation in budgeting is broad-based, the budget can be a tool to transform the development aspirations and priorities of citizens into the spending priorities of the government (UNCIEF, 2007). However, even when budgets do allocate funding for human development priorities and the fulfillment of economic and social human rights, there is an observable disconnect between resources appropriated and positive outcomes gained.

What accounts for these disparities? There is a significant literature which points to institutional factors such as corruption and poor governance to explain this disconnect between spending and outcomes. Ablo and Reinikka (1998) concluded from their study of budgeting for health and education in Uganda in the 1990's that official budget statements in countries with weak institutions were a poor indicator of the actual levels of spending on social services simply because relatively little of the budgetary funds allocated for certain services actually reach their intended recipient. Rajkumar and Swaroop (2002) examined public spending on health and primary education in Uganda and found that spending increases only resulted in improvements in basic health and education indicators when quality governance was in evidence.

These and other examples tend to focus on improving institutions, accountability and information availability as a response to these issues. Reinikka and Scensson (2001) performed similar research in Uganda and found that only 13% of central government spending for non-wage expenditures in primary schools were reaching their intended recipients. However, publicizing this discrepancy lead to an increase in transparency on the part of the central government regarding budgetary allocations for schools. Using local media to publish the amounts of funding intended to reach each school helped improve the percentage of funds for schools reaching the appropriate destination to 90%.[5] Likewise, Deininger and Mpuga (2005) concluded from their field work in Uganda that better household understandings of how to report poor public service provision or corrupt behavior on the part of bureaucrats reduces corruption and leads to better quality service delivery.

Institutional concerns are however only one part of the puzzle. As the Task Force on Child and Maternal Health of the United Nations' Millennium Project (2005) noted in its summary report, achieving positive outcomes in the realm of health depends almost as much on where countries are starting from as it does on what resources they have to commit. For example, in many very poor countries such as Bangladesh or Chad, only the most rudimentary structures regulate a largely private-sector driven health delivery system. Translating public funds into the public provision of health care is a multi-step process and laying a foundation for such a system requires time, effort and funds of its own. In the absence of competent administrators to put health funding to use and skilled health

[5] Hubbard, Paul, "Putting the Power of Transparency in Context: Information's Role in Reducing Corruption in Uganda's Education Sector," Center for Global Development, Working Paper, no. 136 (December 2007), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1100131&download=yes, has urged caution in the interpretation of this particular case. He argues that while the percentage of funds reaching their intended recipient did indeed improve dramatically as a result of a better supply of public information on budget decisions, that other simultaneous reforms processes taking place with the Ugandan educational and fiscal systems also played a role in influencing these positive results.

workers to provide care, spending alone can translate into a paucity of results. Even when a basic foundation of service provision exists, power imbalances between the system and its intended beneficiaries can limit the effectiveness of investments in the system as a whole to achieve desired results. User fees can be one especially problematic barrier to access for the poorest and low quality services or their provision can be a strong disincentive for users to take advantage of existing services.

However, in situations where some basic social service infrastructure exists and some equity of access to those services is ensured, open budgeting, especially when popular participation helps set budget priorities, can lead to resource allocations for development that lead to positive human development and human rights outcomes. Addressing perhaps one of the best known examples of participatory budgeting, de Sousa Santos (1998) has concluded that participatory budgeting in the southern Brazilian state of Rio Grande do Sul has lead to positive pro-poor allocations of state resources. A 2003 study by a team composed of researchers from the Inter-American Development Bank and Harvard University concluded that participatory budget processes in Rio Grande do Sul had lead to the consistent prioritization of key sectors such as urban infrastructure (roadways and water and sanitation), housing and education and to rural needs such as transport and agriculture in state budgeting (Serageldin et al. 2003). A 2008 World Bank study of participatory budgeting in Brazil also concluded that these participatory mechanisms showed promise as a means for facilitating poverty reduction through steering budgetary allocations towards the needs of the poor (World Bank, 2008). Experiments with citizen participation in development planning, including identifying local development priorities, planning development projects, and designing budgets for those plans, have demonstrated similar outcomes in the Indian state of Kerala (Isaac and Franke, 2002). However, authors such as Bräutigam (2004) have cautioned that participatory "people's budgets" tend to reflect the interests of the poor only when "pro-poor" political parties oversee the process. This suggests that no matter how participatory or transparent the process of budgeting, the overall institutions of government and the political forces that operate them still matter.

In sum, we hypothesize that countries with higher levels of budget transparency will achieve better human development outcomes than less transparent countries. By human development outcomes, we mean development that reflect human priorities and reduction of absolute poverty rather than aggregate economic growth. Budget openness as measured by the OBI should be associated with positive development outcomes across countries when the effects of income and regional differences in geography and baseline development conditions are held constant. We base this on the presumption that budgeting which is open and especially participatory will help both to ensure that more public money is allocated to development priorities and that more information about these allocations will flow to stakeholders thus reducing the possibilities for "leakage."

3 Analysis of Open Budgeting, Institutions and Governance, and Human Rights and Human Development Outcomes

In this section, we analyze the statistical relationships between budget openness as measured by the OBI and a selection of indicators of institutional quality and of development outcomes. First, we briefly introduce the indicators included in this study. Many, such as adult literacy rates or under-five mortalities per 1,000 live births are both commonly-used and self-explanatory but others which are less intuitive or well-known, such as the Economic and Social Rights Fulfillment Index or the Human Poverty Index, will be briefly explained. A full list of these indicators and their sources can be found in Annex I. Then, we present the findings of our ANOVA, correlation, and regression analysis in which we probe the role of open budgeting in explaining variance in development outcomes in more depth.

3.1 Regime Type and Institutional Quality Indicators Used in this Study

The OBI is the primary independent variable in our study.[6] It is a survey-based index of budget transparency, based on the results of a subset of questions from the 123-question Open Budget Survey, administered by the Open Budget Initiative, which overviews the budget process at the national level. Of these questions, 91 pertain to the ability of the public to access information on their nation's budget process. The remaining 32 collect information on the ability of the public to participate in national budgeting and of governmental oversight institutions to meaningfully review the decisions made by the executive branch of government regarding budgetary matters (International Budget Partnership, 2008a). In order to investigate whether or not specific components of the budget process have an effect on development outcomes, we also used three sub-indices constructed from smaller subsets of the Open Budget Survey. The first of these sub-indices is an index of legislative strength, based on questions in the Open Budget Survey that gauge the extent to which the legislative branch of government is able to view, participate in drafting, and amend the executive's budget proposal. Several questions also pertain to when in the budget cycle the legislative branch receives and routinely approves the national budget. This legislative strength index is therefore a proxy for the extent to which the legislative branch of government is empowered to participate in the drafting of the national budget. The second sub-index measures the strength of the supreme audit institution. The survey questions it draws on pertain to how quickly audit reports are produced, how independent the supreme audit institution is from the executive branch and how easily available the results of audits of the budget are to the public and the legislative branch. This sub-index is therefore a proxy for the independence and effectiveness of the institution charged with evaluating the implementation of the national budget (International Budget Partnership, 2007). We also construct a sub-index of the extent to which citizens are able to participate in budget processes.[7]

[6] It is worth noting at the outset that the 85 countries with OBI scores in the 2008 rankings do not represent a random sample of the world's states.

[7] Please see Annex I for the precise questions on the 2008 Open Budget Survey that were used in the construction of the sub-indices.

Additionally, our dataset includes a variety of indicators of regime type and institutional quality. Indices of civil liberties and political rights produced by Freedom House are used as a proxy for the fulfillment for civil and political rights. Freedom House produces these numbers for most countries annually on an inverted seven-point scale in which a score of "1" represents the most freedom and "7" the least (Freedom House, 2009). The Polity IV project is a useful measure of regime type. Polity scores place the governing institutions of countries on a 21-point scale ranging from -10 (most autocratic) to +10 (most democratic).

3.2 Human Development and Economic and Social Rights Proxy Indicators Used in this Study

The Human Development Index (HDI) was developed by the United Nations Development Programme and has been used to rank all nations in its annual Human Development Reports since 1990.[8] The HDI is a composite index which includes a health indicator (life expectancy at birth), two education indicators (combined gross enrollment at the primary, secondary and tertiary levels and adult literacy rates) and an income indicator (the log of GDP per capita). HDI scores are presented on a range of 0 to 1 in which 1 represents the best possible level of human development.

The Index of Economic and Social Rights Fulfillment (I-ESRF) recently developed by the Economic and Social Rights Empowerment Initiative (Fukuda-Parr et al., 2009; Randolph et al., 2010) measures the extent to which the state has delivered on realizing the core economic and social rights of its citizens (rights to food, housing, decent work, health and education that takes account of both human outcomes as well as government effort and capacity. It reflects human rights outcomes in terms of the extent to which citizens are enjoying their rights, but also the constraints that states face that would limit their actions. In exploring the impact of budget transparency on human development outcomes, we should recognize that while citizen participation in the budgeting process can affect budget allocations, human development outcomes do not depend on government expenditures alone. Outcomes depend on the effectiveness of expenditures, government capacity, incentive and regulatory measures for private households and enterprises, as well as exogenous conditions such as climate, geography, and history. For these reasons, a measure of government responsiveness is arguably a more meaningful measure of the impact of budget transparency and human development.

Other human development indicators used in this study include the Gender Development Index (GDI), the Gender Empowerment Measure (GEM) and the Human Poverty Index (HPI). The GDI is a composite index based on the HDI which adjusts scores negatively if there is significant gender-based inequality in the enjoyment of the basic components of the index. The GEM however is a very different indicator, which measures participation of women in economic and political life. Both are scored similarly to the

[8] Please see the UNDP Human Development Reports website for a complete list of global and national reports (http://hdr.undp.org/en/). For innovative examples of the HDI applied to national and sub-national contexts see also the Atlas do Desenvolvimento do Brasil ("The Brazilian Human Development Atlas") available at http://www.pnud.org.br/atlas/ or the work of the American Human Development Project which applies this methodology to the states and Congressional districts of the United States (www.measureofamerica.org).

HDI on a 0 (worst) to 1 (best) scale. Finally, the HPI is an indicator which measures poverty from the human development perspective, defining poverty as lack of minimum essential capabilities. It goes beyond the conventional poverty rate which measures the proportion of people living below a threshold income level, the HPI focuses on the proportion of people living below a threshold level of life conditions. It is a composite measure that includes the likeliness of death at a relatively early age, the percentage of adults who are illiterate and the percentage of the population which does not have access to a decent standard of living.[9]

3.3 Findings: Correlations amongst the OBI and Selected Indicators of Development Outcomes and Institutional Quality and Governance

Our empirical work in this section confirms and builds upon the work of researchers such as Bellver and Kaufmann (2005) and Islam (2006) who have shown positive relationships between their own indicators of transparency and a variety of human development outcomes and other indicators of institutional quality and governance. Although these and other researchers have shown relationships between transparency in general and positive development and governance outcomes, the value of performing these tests with the OBI is that this indicator captures transparency in one specific institution – the budget - which has direct relevance to the lives of poor people. This is a new level of specificity over approaches taken by Bellver and Kaufmann (who use custom indicators of economic/institutional and political transparency) and Islam (who uses Freedom of Information laws and the frequency of the publication of financial information as proxies for transparency). As our findings below show, a number of positive development outcomes and governance characteristics are correlated with open budgeting as captured by the OBI.

Table 1 below summarizes some of the relationships that our research has observed between country-scores on the OBI and indicators of human development and economic and social human rights, regime type and governance, and state expenditure and financial resources. There is for example a positive relationship of moderate strength between the OBI and indicators of the percentage of students reaching the last grade of primary education and the percentage of the population with improved water access. There is also a moderately strong and negative relationship between the OBI and under-five mortality, meaning that countries with more open budgets tend to have lower rates of child mortality. The relatively weaker relationship between the OBI and life expectancy and HDI is not surprising since the role of public spending on these outcomes is less direct than for outcomes such as access to clean water and child survival. Other indicators, such as the ESRF-1, had less strong correlations and there was no significant relationship between how countries scored on the OBI and the Gini index of income inequality.

[9] The HPI actually has two manifestations, the HPI-1 for developing countries and the HPI-2 for high-income OECD countries. Thresholds for the survival and standard of living indicators are different for the two versions of the HPI to reflect the different development challenges facing higher-income countries compared to lower-income countries. For more detailed information on all the human development indicators, see United Nations Development Programme (UNDP), *Human Development Report 2007/2008: Fighting Climate Change: Human Solidarity in a Divided World* (New York: Oxford University Press, 2007).

Table 1 – Correlates of the OBI

	Variable	Open Budget Index	Legislative Strength Index	Supreme Audit Strength Index	Participation Index
Human Development and Economic and Social Human Rights Variables	Economic and Social Rights Fulfillment Index (ESRF1)	.394** (62)	.103	.380**	.355**
	Human Development Index	.589** (85)	.439**	.616**	.605**
	Gender Development Index	.606** (79)	.444**	.628**	.608**
	Gender Empowerment Measure	.574** (60)	.584**	.591**	.627**
	Multidimensional Poverty Index	-.554** (60)	-.209	-.474**	-.484**
	Persistence through primary education	.577** (44)	.447**	.423**	.489**
	Sanitation access	.448** (75)	.292*	.461**	.472**
	Water access	.524** (79)	.350**	.577**	.465**
	Under-5 mortality	-.554** (85)	-.368**	-.593**	-.490**
	Infant mortality	-.580** (85)	-.434**	-.623**	-.534**
	Female youth literacy	.348** (55)	.214	.511**	.383**
	Male youth literacy	.284* (55)	.144	.446**	.343*
	Gini coefficient	-.198 (77)	-.204	-.232*	-.247*
Regime Type and Institutional Quality Indicators	Freedom House Civil Liberties	-.694** (85)	-.574**	-.660**	-.610**
	Freedom House Political Rights	-.693** (85)	-.564**	-.639**	-.605**
	Polity Score	.588** (82)	.480**	.584**	.489**
Expenditure and Financial Resource Variables	GDP per capita (2005 PPP $)	.537** (84)	.520**	.530**	.595**
	Public Health Expenditure (% of total government expenditure)	.266* (85)	.479**	.417**	.352**
	Total Health Expenditure per Capita (2005 PPP $)	.576** (85)	.611**	.585**	.619**
	Public education expenditure (% of total government expenditure)	-.293* (62)	-.182	-.157	-.226
	Total education expenditure per pupil (PPP $)	.658** (51)	.663**	.708**	.746**

** Significant at the .01 level * Significant to .05 (2-tailed)

Correlation coefficients reported with *n* in parenthesis; n for the sub-indices is the same as for the overall OBI

As shown in Table 1 above, the OBI also correlates significantly and positively with a variety of development outcomes, including the HDI, GDI, GEM, persistence to the end of primary education, and water and sanitation access. Correlations between the OBI and the MPI and child mortality indicators are negative and significant, showing that countries scoring highly on the OBI tend to those countries with less absolute deprivation and lower rates of child and infant mortality. The relationships between the OBI and the Freedom House Indices of Political Rights and Civil Liberties are significant, strong, and negative. These indices have an inverted scale, with lower scores representing better respect for civil liberties and political freedom. The correlation between the OBI and Polity IV Regime Characteristics is weaker, but it is still a relatively strong and positive association. However, there are some countries which Polity IV rates as "consolidated democracies" or very close to it which do not receive high scores on the OBI. Germany for example is scored as a full democracy by Polity IV but receives only a 64 on the OBI. Several developing countries which Polity rates as strongly democratic receive very low OBI scores. Albania for example scores a 39 on the OBI while Nicaragua scores only 18. However, the general trend described by these correlations is that countries that practice open budgeting also tend to be more democratic, more respectful of the civil and political rights of their citizens, and to have well-functioning governance institutions. Finally, the OBI correlates relatively strongly and positively with GDP per capita and with education and health spending per capita. The relationships between the OBI and health and education expenditures as a percentage of total government expenditure are far weaker and less significant. In sum, these reinforce our findings above that countries with greater budget openness tend to be more affluent and also to spend more per capita on health and education.

What of the sub-indices created from the Open Budget Survey itself? For the very most part, the sub-indices for Legislative Strength, Supreme Audit Institution Strength, and Participation all mirror the overall OBI in the strength, significance, and direction of their correlations with other variables in the study. There are some interesting exceptions however. The Legislative Strength Index, for example, does not correlate significantly with the ESRF1, the Multidimensional Poverty Index, or either of the youth literacy indicators despite the OBI itself and the other two sub-indices correlating significantly with all of these indicators. The sub-indices correlate more strongly than the OBI itself with both of the health expenditure variables. This suggests that not all aspects of budget transparency play the same role in influencing budget allocations and development ends. We take this as justification that we are right to explore the impact of these components of budget transparency separately, as we will later in the paper.

Among the indicators of development outcomes and human rights fulfillment considered in this study, we give special attention to the relationships between the OBI and the HDI, the ESRF1 and the GDI. Figure 1 below shows the relationship between country-scores on the OBI and HDI. The relationship between budget transparency as measured by the OBI and the HDI is significant, positive and

relatively strong, with a Pearson's correlation coefficient of .589. As the figure below shows, there is still however a good deal of variance in country-scores despite this strong relationship. South Africa, one of the top-scoring countries on the OBI rankings in 2008, has a far lower score on the HDI than other countries with strong budget transparency largely due a very low life expectancy (barely 52 years) and lower per capita incomes (about USD $10,000 in PPP terms). Saudi Arabia, which falls near the very bottom of the OBI rankings for 2008, has a higher HDI score than South Africa, buoyed largely by relatively high per capita incomes (USD $22,935 PPP).

Figure 1 – Relationship between country scores on the OBI and the HDI

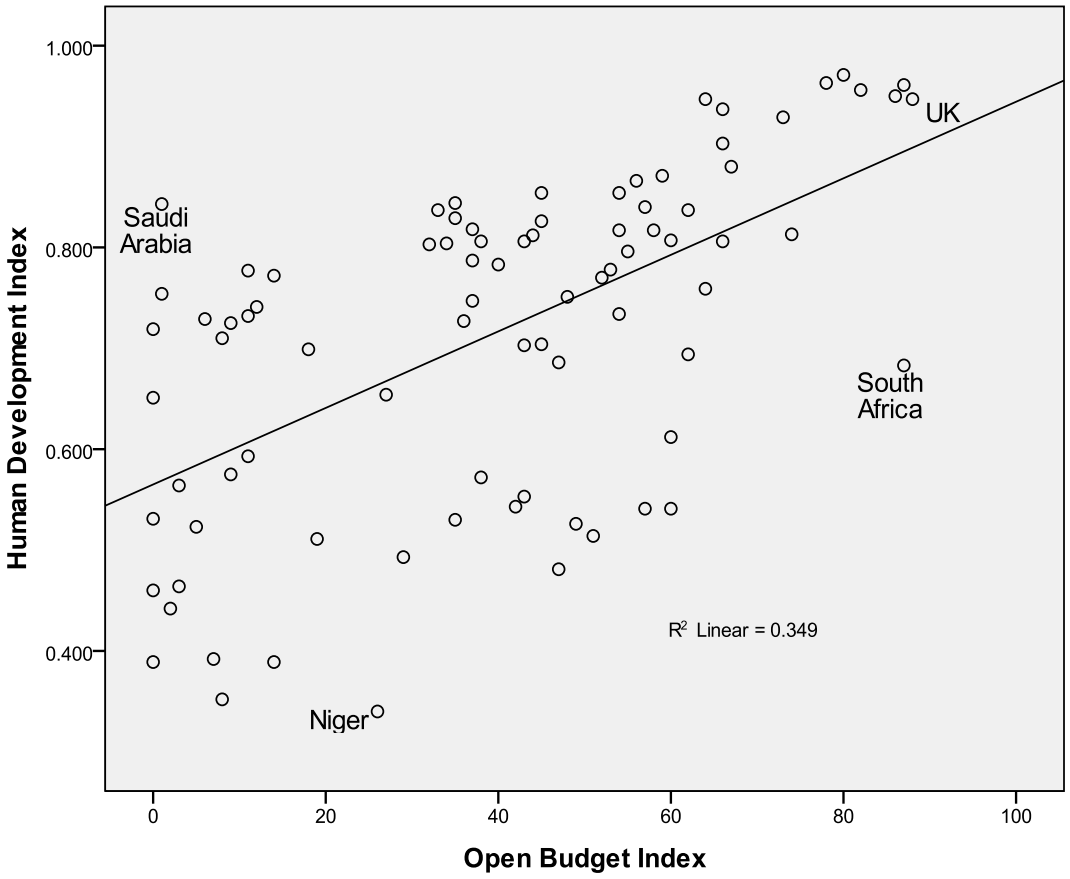
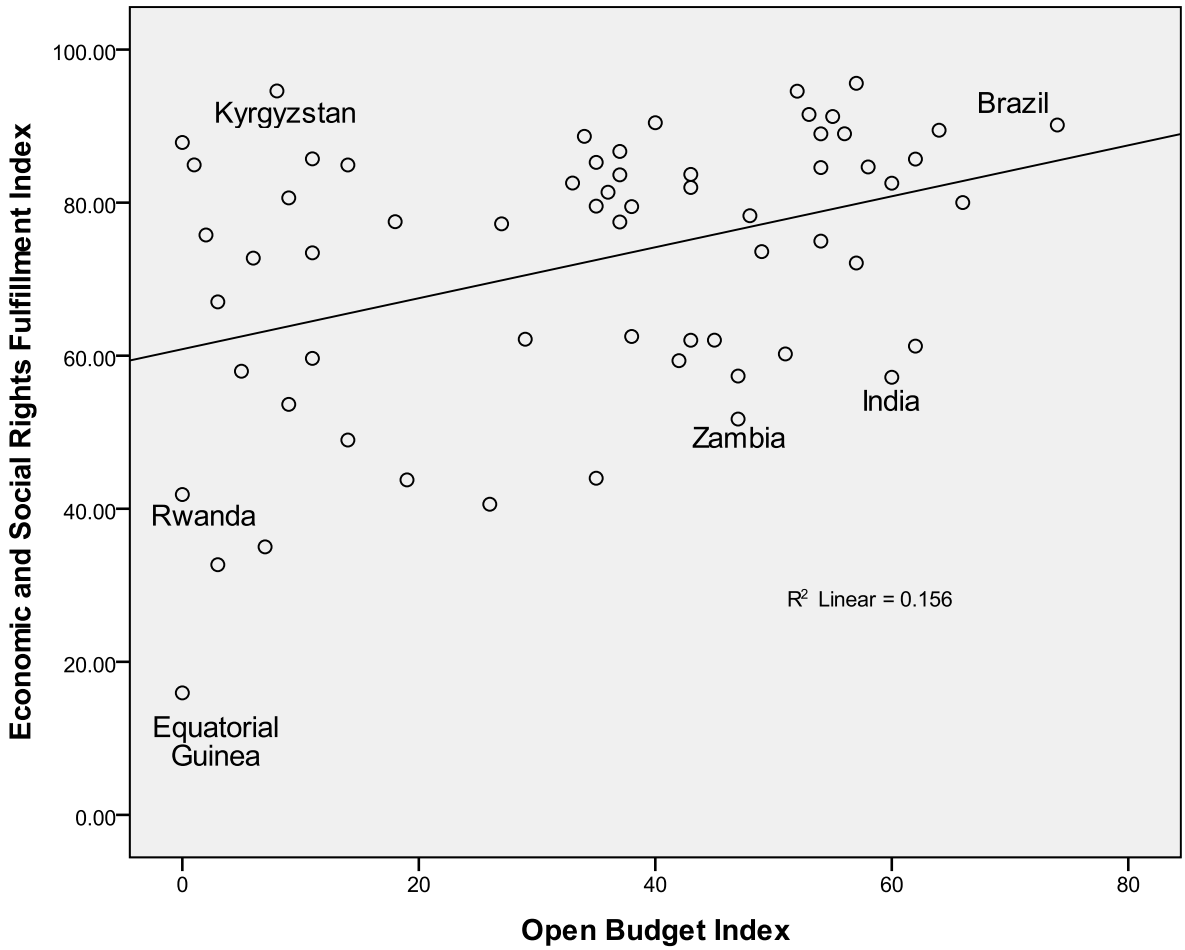


Figure 2 below shows the relationship in country-scores on the OBI and the ESRF1. As explained above, the ESRF-1 is a new metric which measures the extent to which states are meeting their obligations to progressively realize the economic and social rights of their citizens. Unlike the HDI, this indicator takes the capacity of states and the resources available to them into account in assessing progress on realizing basic rights. However, as Figure 2 below shows, the relationship between country-scores on the OBI and the ESRF1 is actually not as strong as the relationship between scores on the OBI and the HDI. This relationship is however still both statistically significant and positive.

Figure 2 - Relationship between country scores on the OBI and the ESRF-1

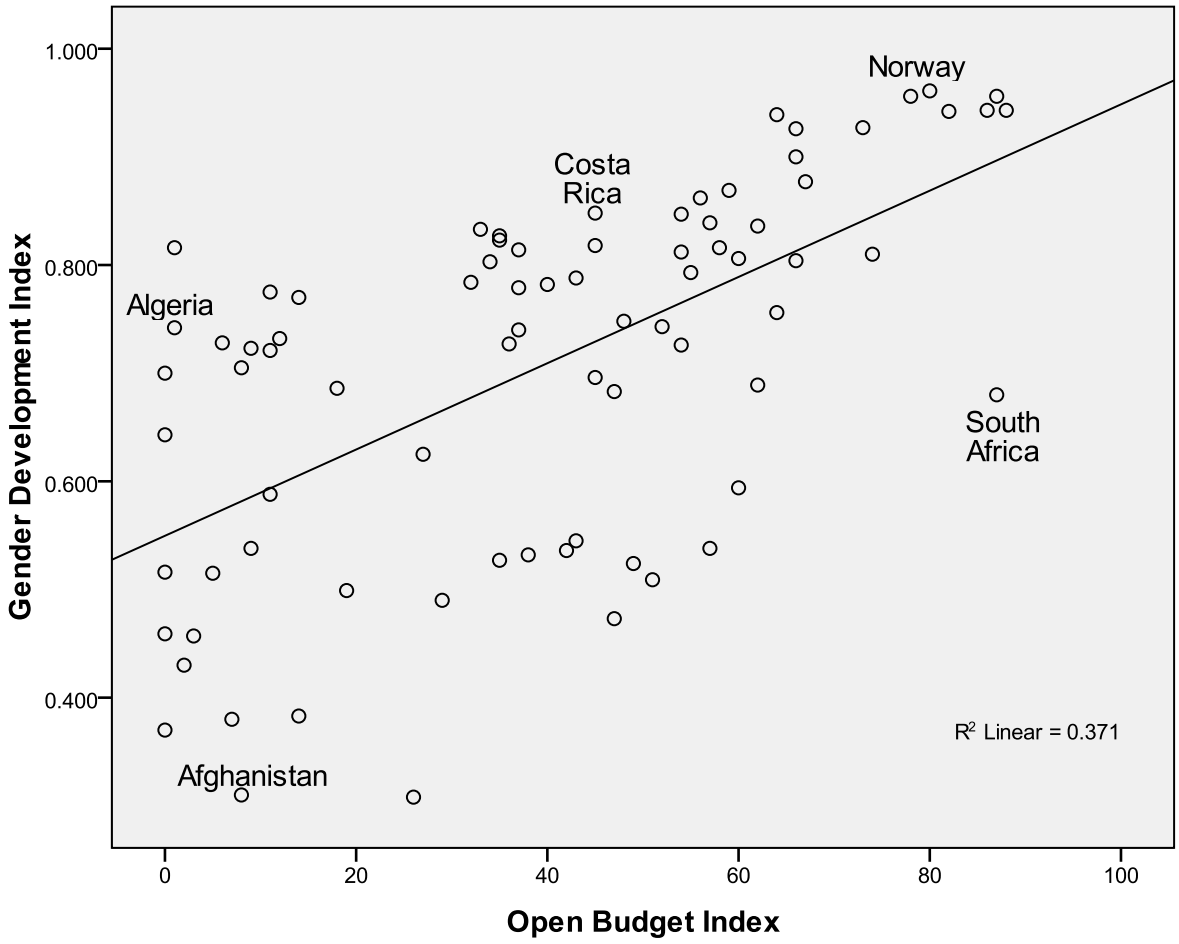


The relationship between country-scores on the OBI and ESRF-1 is positive but of only moderate strength (the Pearson's correlation coefficient for this relationship is .394). We hypothesized that a greater degree of budget openness and citizen participation in the budget process should help steer states towards allocating more funds towards achieving development goals and towards making more efficient and effective use of these investments. Therefore, the lack of a stronger relationship between the OBI and the ESRF-1 is somewhat surprising and of interest. As Figure 2 shows though, countries that do well at fulfilling the economic and social rights of their citizens relative to their capacity and resources include countries that exhibit a high degree of budget openness (Brazil) and countries that exhibit hardly any (Kyrgyzstan).

Finally, Figure 3 below shows the relationship between scores on the OBI and the GDI, which is one of the strongest relationships that we observed between country-scores on the OBI and any development indicator. This relationship, which has a Pearson's correlation coefficient of .606, is both positive and statistically significant. The correlation between OBI scores and country-scores on the GEM, another gender equality indicator which measures gender empowerment, was almost as compelling: this relationship was also positive and significant, with a correlation coefficient of .574. These results suggest that countries that practice more open budgeting also tend to do a better job of ensuring

more equal opportunities and outcomes for women and for men, at least insofar as existing metrics can measure this complicated social, political, economic and cultural phenomenon.

Figure 3 - Relationship between country scores on the OBI and the GDI



3.4 Findings: Ordinary Least Squares Regression Analysis

The previous section of this paper, noted several interesting correlations between the OBI and other variables in our dataset. We now turn to a series of regression analyses to determine whether these associations are significant when the impacts of different income levels and geography are taken into effect or whether these associations can be "explained away" by these factors. Researchers such as Bellver and Kaufmann (2005) have shown that indicators of transparency are associated with human development outcomes such as life expectancy, female literacy and vaccination coverage, even when per capita incomes are controlled for. Our research goes a step further by probing the relationships between open budgeting as measured by the OBI and a variety of indicators of human development outcomes and state social expenditures and by adding additional controls. In order to control for differences in income and economic resources between countries, we include the GDP per capita figure for each country in the database expressed in 2005 PPP (purchasing power parity) U.S.

dollars.[10] Additionally, to control for the historically and geographically rooted differences between regions and different "starting points" of development, we introduce dummy variables based on the geographic regions used in the 2007/2008 UNDP Human Development Report. These variables code countries in the dataset based on their location in the Middle East and North Africa ("Arab States"), the Asia and Pacific Region, Europe and the Commonwealth of Independent States (CIS), Latin American and the Caribbean, and Sub-Saharan Africa.[11]

We constructed a series of regression models, using data on a variety of human development outcomes as the dependent variables in each. A full list of variables with definitions and sources can be found in Annex I, descriptives statistics for all variables are given in Annex II, and all additional regression results in Annex III. Table 2 below shows OLS regression models for the under-5 mortality rate and for access to improved drinking water.

Table 2 – Ordinary Least Squares Regressions for Development Outcomes

	U5MR (1)	U5MR (2)	U5MR (3)	U5MR (4)	IMR (5)	WaterTotal (6)	WaterTotal (7)	WaterTotal (8)	WaterTotal (9)	WaterRural (10)
OBI VALUE	-.437** (-3.14)	-	-	-	-	.167** (2.30)	-	-	-	-
LegStrength Index	-	-.285* (-1.68)	-	-	-	-	.08 (.94)	-	-	-
SAI Strength Index	-	-	-.490** (-3.28)	-	-.324** (-3.58)	-	-	.258** (3.41)	-	.30** (3.23)
Participation Index	-	-	-	-.285 (-1.55)	-	-	-	-	.113 (.1.17)	-
GDP per capita (Ln)	-13.67** (3.61)	-15.64** (-4.28)	-13.90** (-3.94)	-15.34** (-4.13)	-9.01** (-4.23)	4.12** (2.15)	5.16** (2.69)	4.18** (2.34)	4.99** (2.59)	5.18** (2.34)
Sub-Saharan Africa	60.77** (4.66)	65.43** (4.80)	57.18** (4.31)	63.04** (4.43)	30.94** (3.86)	-14.43** (-2.04)	-16.39** (-2.24)	-10.55 (-1.51)	-15.06** (-2.00)	-13.3 (-1.54)
Arab States	-8.71 (-.656)	-2.02 (-.14)	-14.23 (-1.03)	-4.14 (-.28)	-5.86 (-.70)	2.11 (.289)	-.69 (-.09)	8.29 (1.11)	.980 (.12)	8.29 (.898)
Asia Pacific	-8.81 (-.733)	-8.13 (-.63)	-8.12 (-.68)	-9.62 (-.72)	-.873 (-.12)	-4.21 (-.645)	-4.76 (-.69)	-3.21 (-.51)	-3.75 (-.53)	-2.76 (-.35)
Europe and CIS	-14.19 (-1.38)	-12.77 (-1.17)	-14.13 (-1.38)	-13.48 (-1.21)	-6.85 (-1.11)	5.21 (.903)	4.40 (.73)	6.61 (1.19)	4.94 (.81)	6.11 (.89)
Latin America	-12.32 (-1.14)	-8.79 (-.77)	-12.07 (-1.13)	-9.22 (-.79)	-4.39 (-.68)	2.38 (.398)	.727 (.12)	3.71 (.65)	1.35 (.22)	-4.04 (-.67)
Constant	174.71** (4.90)	185.87** (4.96)	185.37** (5.22)	181.66** (4.86)	122.24** (5.70)	44.99** (2.36)	40.41** (2.06)	37.37** (2.04)	41.18** (2.11)	21.9 (.97)
Observations (#)	84	84	84	84	84	78	78	78	78	78
Adjusted R^2	.787	.768	.789	.767	.777	.525	.495	.561	.498	.526

** Significant to .05 level * Significant to .1

[10] In the regression analyses, GDP per capita is subject to a log transformation. By convention, the natural log of income is used to reflect the diminishing returns of higher incomes on achieving basic development goals and the fulfillment of fundamental economic and social rights. This also helps improve the normality of the distribution of these data.

[11] OECD countries are the baseline category among the regional dummy variables.

In Table 2 above, model 1 shows that the OBI remains significant predictor of under-5 mortality rates even when the effects of GDP per capita and region have been controlled for. In this model, a one unit increase in the OBI is associated with a reduction of about .44 child deaths per 1,000. Replacing the OBI with the Legislative Strength Index in model 2 shows that this sub-index has a similar though smaller and less significant effect on the outcomes variable compared to the OBI overall. The model with the highest adjusted R^2 is model 3 using the sub-index for the Supreme Audit Institution strength as a predictor. This is significant in the model with a slightly larger effect size than that of the overall OBI. A similar model (4) using the Participation Index showed that this sub-index was not a significant predictor of child mortality outcomes with income and region controlled for. Model 5 uses the independent variables from model 3 with the infant mortality rate as the dependent variable to test the robustness of this model. The goodness of fit for the model as a whole and the significance and direction of the Supreme Audit Institution Strength Index are comparable in models 3 and 5.

Models 6 through 10 in Table 2 consider another variable in which the OBI retains a significant association with when GDP per capita and region are controlled for: the percentage of the population with access to improved drinking water. In model 6, the OBI retains a significant and positive association with the water access variable net of the effects of income and region. In this model, a one unit increase in the OBI is associated with a 0.17 point increase in the percentage of the population with access to improved drinking water. Models 7 and 9 show that neither the Legislative Strenth Index nor the Participation Index are significant predictors of water access when the effects of income and region are controlled for. Model 8 however shows that the Supreme Audit Institution Strength Index has a significant and positive association with water access net the control variables. This model has a higher adjusted R^2 and the Supreme Audit Institution Strength Index has a larger effect size in the model than the OBI does in Model 6. Model 10 shows a similar result when the dependent variable is switched to the percentage of the rural population (only) with access to improved drinking water as a test of robustness.

Could it be that relatively higher spending on health and water and sanitation infrastructure among more transparent countries is part of what is driving the associations between more transparency and better outcomes shown above? In the realm of health, we can test this connection further. Table 3 below shows models in which public health expenditure as a percentage of total government expenditure is the dependent variable as well as models with the total health expenditure in per capita terms.[12] Models 11 and 14 show that neither the OBI overall nor the Participation Index have a significant association with the health expenditure variable. Models 12 and 13 however show that both the Legislative Strength Index and the Supreme Audit Institution Strength Index do have a significant and positive association with the public health expenditure variable. In both of these models, a one unit increase in either the Legislative Strength Index or the Supreme Audit Institution Strength Index is associated with an increase of roughly 0.1 points of additional public health

[12] We use the log of per capita health expenditure as the dependent variable in these models as initial models using the raw dollar amounts showed signs of violating the assumption of homoscedasticity.

spending, as a percentage of total government expenditure. Model 15 repeats model 12 with public health expenditure as a percentage of GDP as the dependent variable as a test of robustness and achieves similar results. Admittedly, these effect sizes are very small and the relatively low adjusted R^2 of these models suggest that omitted variable bias may be affecting these results to a greater extent than models shown in Table 2.

Table 3 – Ordinary Least Squares Regressions for Health Expenditures

	PublicHealthExp Total (11)	PublicHealthExp Total (12)	PublicHealthExp Total (13)	PublicHealthExp Total (14)	PublicHealthExp GDP (15)	HealthExpPerCapita (Ln) (16)	HealthExpPerCapita (Ln) (17)	HealthExpPerCapita (Ln) (18)	HealthExpPerCapita (Ln) (19)
OBIVALUE	.02 (.65)	-	-	-	-	.005** (2.70)	-	-	-
LegStrengthIndex	-	.08** (3.24)	-	-	.03** (2.94)	-	.007** (2.96)	-	-
SAIStrengthIndex	-	-	.07** (3.09)	-	-	-	-	.008** (3.99)	-
ParticipationIndex	-	-	-	.02 (.79)	-	-	-	-	.005* (1.94)
GDP per capita (Ln)	-.20 (-.34)	-.41 (-.77)	-.51 (-.93)	-.20 (-.35)	.25 (1.26)	.875** (17.57)	.889** (18.56)	.869** (18.63)	.891** (17.78)
Sub-SaharanAfrica	-3.55* (-1.68)	-2.23 (-1.12)	-1.84 (-.90)	-3.25 (-1.47)	-1.46* (-1.98)	-.450** (-2.49)	-.438** (-2.45)	-.347* (-1.98)	-.434** (-.15)
Arab States	-6.53** (-3.04)	-4.30** (-2.10)	-3.87* (-1.81)	-6.13** (-2.66)	-1.74** (-2.30)	-.418** (-2.28)	-.386** (-2.10)	-.259 (-1.41)	-.411** (-2.04)
Asia Pacific	-6.92** (-3.55)	-5.28** (-2.80)	-6.19** (-3.38)	-6.51** (-3.14)	-2.69** (-3.86)	-.831** (-5.01)	-.763** (-4.50)	-.81** (-5.15)	-.780** (-4.31)
Europe and CIS	-4.28** (-2.57)	-3.10* (-1.94)	-3.58** (-2.27)	-4.05** (-2.34)	-1.25** (-2.11)	-.307** (-2.16)	-.268* (-1.87)	-.281** (-2.08)	-.287* (-1.90)
Latin America	-1.68 (-.96)	-.21 (-.12)	-.60 (-.36)	-1.47 (-.81)	-1.46** (-2.35)	-.253* (-1.69)	-.223 (-1.48)	-.215 (-1.52)	-.255 (-1.62)
Constant	16.20** (2.80)	13.97** (2.55)	15.06** (2.75)	15.81** (2.74)	1.71 (.85)	-1.55** (-3.15)	-1.77** (-3.60)	-1.71** (-3.64)	-1.65** (-3.27)
Observations (#)	84	84	84	84	84	84	84	84	84
Adjusted R^2	.225	.315	.308	.227	.469	.935	.936	.941	.932

** Significant to .05 level * Significant to .1

Table 3 above also presents four models in which total per capita expenditure on health is the dependent variable. As models 16 through 19 show, the OBI and all three sub-indices have a positive and significant association with higher per capita health spending net of the effects of income and region, although the Participation Index is only significant to 0.1. In the model with the highest adjusted R2, a one unit increase in the Supreme Audit Strength Index is associated with a 0.8% increase in per capita health spending.

4 Conclusions

We find that countries that exhibit high levels of budget transparency also tend to achieve positive development outcomes, realize the economic and social rights of their citizens more fully, and to be more democratic. However, our regression analysis shows that, when differences in per capita income

and region are held constant, budget transparency retains a significant statistical association with only a few variables, namely infant and child survival, the percentage of the population using improved drinking water, and public health expenditure levels. Furthermore, we substitute the OBI in these models for several sub-indices, constructed from sub-sets of questions from the Open Budget Survey. These sub-indices focus on the strength of the legislative branch, the supreme audit institution, and citizen participation in the budget process. We find that in some cases, these sub-indices are indeed better predictors of development outcomes than the OBI overall, suggesting that some aspects of budget transparency are more important for enabling positive development outcomes than others. The value of these findings is that they add to existing literature on the connections between institutions and development in that they suggest that budget transparency is one specific example of a 'good institution' which is associated with positive development outcomes such as improved child survival and expanded access to improved drinking water.

However, our regression analyses yield some interesting insights as well. The OBI overall is a statistically significant predictor of child and infant health outcomes as well as access to improved drinking water, even when controlling for the effects of income and region. There is also a statistically significant association between budget transparency and greater levels of health spending, both relative (public health expenditure as a percentage of total government expenditure) and absolute (total health expenditure per capita) in models that also included the income and region controls. Furthermore, in many cases, sub-indices constructed from specific sub-sets of questions from the Open Budget Index are better predictors of development outcomes than the overall OBI. Table 1 set the stage for this finding, showing that the Supreme Audit Institution Strength Index correlates more strongly with the GDI, infant and child mortality, and health spending than the OBI. Regression results summarized in Tables 2 and 3 confirm that these stronger associations survived the introduction of controls for variations in GDP per capita and region. The Supreme Audit Institution Strength Index was a significant predictor with a larger effect size than the OBI overall in several of our models.

The paucity of instances in which our prototype Participation Index was a significant predictor of development outcomes or expenditure levels appears to work against our hypothesis that budgeting that is participatory has the best chance of leading to better development ends. Despite strong correlations between this sub-index and outcomes such as infant mortality and health spending (Table 1) the Participation Index was only a remotely significant predictor of per capita health expenditure in model 19 (Table 3). The relatively poor showing of the Legislative Strength Index in our models furthers this trend, as we would expect the legislative branch to act as another vehicle for popular participation in budget processes in most relatively democratic states. However, this is entirely insufficient evidence to warrant rejecting our hypothesis and concluding that participation doesn't matter. The questions from the Open Budget Survey used to construct this sub-index gauge only the extent to which citizen participation in budget formulation and review *is possible*, not the extent to which citizens actually do play an active role in the processes. Future analyses using better measures

of the extent of actual citizen participation in budget development and oversight, particularly with more local levels of governance when appropriate and possible, may shed show more robust results.

What might explain some of these observations? In many cases, strong correlations between the OBI and indicators such as GDI or primary school completion were shown to be spurious when controls for income and region are taken into account. In cases where the OBI retains a significant association with development and expenditure outcomes, sub-indices measuring the strength of the supreme audit institution and, to a lesser extent, the strength of the legislative branch are in some cases better predictors of these outcomes than the OBI overall. If the Supreme Audit Institution Strength Index measures the independence and effectiveness of the institution charged with evaluating the implementation of the national budget, then this suggests that countries put more resources towards sectors such as health when strong audit institutions can attest that budgets have been effectively implemented in the past. Similarly, strong legislative participation in and oversight of the budget process could conceivably help ensure that social expenditure for development goals are prioritized and that these funds are well spent. The strong showing of the Legislative Strength Index and the Supreme Audit Institution Strength Index in our models compared to the OBI as a whole also suggest that perhaps the effective functioning of these two institutions is more important for budgeting for development progress than the timely preparation and delivery of the key budget documents which are the focus of most of the remaining questions on the Open Budget Survey.[13] This is not to suggest that the careful and prompt preparation and disclosure of these documents is not important, rather that the effective functioning of the legislative and audit institutions may be relatively more so.

The additional value of these findings is that they contribute to the literature on links between "good governance," "good institutions" and development outcomes by suggesting that budget transparency, as measured by the OBI, is indeed a concrete example of one of these good institutions. Our findings additionally propose a variety of topics for further study. These include the strong correlations between budget transparency and indicators of gender equality and the congruence of two health-related variables, health expenditures per capita and child mortality, having a strong relationship to the OBI in the regression analysis. The links between accountability, participation, gender equality and health outcomes, and the stronger association of the OBI to health than to other sectors such as education, all warrant more in-depth investigation.

Another important consideration is aid dependence. Countries with low OBI scores below 40) are low income countries, virtually all of which are highly aid dependent. In many of these countries, a significant proportion of aid resources are off budget but sizeable enough to be significant for human development outcomes. Carlitz (2008) and others found that aid dependent countries are also less

[13] We did create another sub-index from the responses to the Open Budget Survey to test this statement further, using all the questions not included in the sub-indices for Legislative Strength, Supreme Audit Institution Strength, or Citizen Participation. Unsurprisingly, since this variable included the majority of questions from the Open Budget Survey upon which the OBI is based, this sub-index correlated extremely strongly with the OBI itself making its behavior in regression models almost indistinguishable from that of the OBI. For this reason, we have not included this variable in any of our reported results.

transparent in their budget processes. So for this category of countries budget transparency is not only weaker but also national budgets are less important as a determinant of human development outcomes. This touches on the question of whether development aid could in fact undermine democratic accountability (Carlitz 2008). This is a critically important yet under-explored question in the literature of aid effectiveness and has significant implications for aid policy.

Yet another line of reasoning is to consider the unit of analysis. Both the indicators of budget process and development outcomes considered in this paper aggregate at the national level. Most of the case studies that show improved citizen participation leading to more responsive budgets and outcomes are processes at local levels, such as the municipality of Porto Allegre, or the villages in Rajastan (Goetz and Jenkins). Moreover, the case study evidence of the positive impact of citizen participation in budget priorities focus on involvement of civil society groups at local levels (Robinson 2008). They also emphasize the important role of such groups in the process. Another area of research would then be to unpack the different environments that operate at local as opposed to national levels and the types of civil society institutions that facilitate budget accountability.

References

Ablo, Emmanuel, Ritva Reinikka, "Do Budgets Really Matter? Evidence from Public Spending on Education and Health in Uganda," World Bank, World Bank Policy Research Working Paper, no. 1926 (June 1998).

Acemoglu, Daron, Simon Johnson, James A. Robinson, and Pierre Yared, "Income and Democracy," *American Economic Review*, vol. 98, no. 3 (June 2008), pp. 808-842.

Alkire, Sabina, Maria Emma Santos, "Multidimensional Poverty Index: 2010 Data," Oxford Poverty and Human Development Initiative (2010), www.ophi.org.uk/policy/multidimensional-poverty-index/.

Bellver, Ana and Daniel Kaufmann, "Transparenting Transparency: Initial Empirics and Policy Applications," World Bank (August 2005), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=808664&.

Birdsall, Nancy, Ruth Levine, and Amina Ibrahim, "Toward Universal Primary Education: Investments, Incentives, and Institutions," United Nations Millennium Project, Task Force Education and Gender Equality (2005), http://www.unmillenniumproject.org/documents/Education-complete.pdf.

Bräutigam, Deborah, "The People's Budget? Politics, Participation and Pro-Poor Policy," *Development Policy Review*, vol. 22, no. 6 (November 2004), pp. 653-668.

Carlitz, Ruth, Paolo de Renzio, Warren Krafchik, and Vivek Ramkumar, "Budget Transparency Around the World: Results from the 2008 Open Budget Survey," *OECD Journal on Budgeting*, vol. 9, no. 2 (September 2009), pp. 82-98.

Deininger, Klaus and Paul Mpuga, "Does Greater Accountability Improve the Quality of Public Service Delivery? Evidence from Uganda," *World Development*, vol. 33, no. 1 (2005), pp. 171-191.

de Sousa Santos, Boaventura, "Participatory Budgeting in Porto Alegre: Towards a Redistributive Democracy," *Politics and Society,* vol. 26, no. 4 (December 1998): pp. 461-510.

de Schweinitz, Karl, "Industrialization, Labor Controls, and Democracy," *Economic Development and Cultural Change*, vol. 7, no. 4 (July 1959), pp. 385-404.

Drèze, Jean and Amartya Sen, *Hunger and Public Action* (New York: Oxford University Press, 1989).

Filmer, Deon and Lant Pritchett, "Child Mortality and Public Spending on Health: How Much Does Money Matter?" World Bank, World Bank Policy Research Working Paper, no. 1864 (December 1997).

Filmer, Deon, Jeffery Hammer, and Lant Pritchett, "Weak Links in the Chain II: A Prescription for Health Policy in Poor Countries," *The World Bank Research Observer*, vol. 17, no. 1 (Spring 2002), pp. 47-66.

Foster, Mick, Adrian Fozzard, Felix Naschold, and Tim Conway, "How, When and Why Does Poverty Get Budget Priority? Poverty Reduction Strategy and Public Expenditure Reform in Five African Countries," Overseas Development Institute, ODI Working Paper, no. 168 (May 2002), http://www.odi.org.uk/resources/download/1386.pdf.

Freedman, Lynn P., Ronald J. Waldman, Helen de Pinho, Meg E. Wirth, A. Mushtaque R. Chowhury, and Allan Rosenfield, "Who's Got the Power? Transforming Health Systems for Women and Children," United Nations Millennium Project, Task Force on Child Health and Maternal Health (2005), http://www.unmillenniumproject.org/documents/maternalchild-complete.pdf.

Freedom House, "Country ratings and status, FIW 1973-2009," Freedom House, Freedom in the World Comparative and Historical Data (2009), http://www.freedomhouse.org/uploads/fiw09/CompHistData/FIW_AllScores_Countries.xls.

Fukuda-Parr, Sakiko, Terra Lawson-Remer, and Susan Randolph, "An Index of Economic and Social Rights Fulfillment: Concept and Methodology," *Journal of Human Rights*, vol. 8, no. 3 (July-September 2009), pp. 195-221.

Goetz, Anne Marie, "Who Answers to Women? Gender And Accountability," United Nations Development Fund for Women UNIFEM, Progress of the World's Women 2008/2009 (2008), http://www.unifem.org/progress/2008/media/POWW08_Report_Full_Text.pdf.

Hubbard, Paul, "Putting the Power of Transparency in Context: Information's Role in Reducing Corruption in Uganda's Education Sector," Center for Global Development, Working Paper, no. 136 (December 2007), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1100131&download=yes.

International Budget Partnership, "Open Budget Questionnaire," International Budget Partnership (September 2007), http://www.internationalbudget.org/files/OpenBudgetQuestionnaire2008English.pdf.

International Budget Partnership, "Excel Database of Answers to Open Budget Questionnaire 2008 (Revised)," International Budget Partnership (2008a), http://internationalbudget.org/wp-content/uploads/FinalDatabaseByQuestion08-NUMERIC-R091609.xls.

International Budget Partnership, "Excel Database of Legislative and Supreme Audit Institution Strength Indices," Provided by special arrangement with the International Budget Partnership (2008b).

International Budget Partnership, "The Open Budget Survey 2008," International Budget Partnership (2009), http://internationalbudget.org/wp-content/uploads/2011/06/2008FinalFullReportEnglish1.pdf.

Isaac, T. M. Thomas and Richard W. Franke, *Local Democracy and Development: The Kerala People's Campaign for Decentralized Planning*," (Lanham, MD: Rowman & Littlefield Publishers, Inc., 2002).

Islam, Roumeen, "Do More Transparent Governments Govern Better?" World Bank, World Bank Policy Research Working Paper, no. 3077 (June 2003), http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.14.9612&rep=rep1&type=pdf.

Islam, Roumeen, "Does More Transparency Go Along With Better Governance?" *Economics & Politics*, vol. 18, no. 2 (July 2006), pp. 121–167.

Kaufmann, Daniel, Aart Kray, and Pablo Zoido-Lobatón, "Governance Matters," World Bank, World Bank Policy Research Working Paper, no. 2196 (October 1999), http://siteresources.worldbank.org/INTWBIGOVANTCOR/Resources/govmatrs.pdf.

Kaufmann, Daniel, Aart Kray, and Massimo Mastruzzi, "Governance Matters IV: Governance Indicators for 1996-2004," World Bank, World Bank Policy Research Working Paper, no. 3630 (June 2005), http://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID718081_code170891.pdf?abstractid=718081&mirid=1.

Lipset, Seymour Martin, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *American Political Science Review*, vol. 53, no. 1 (March 1959), pp. 69-105.

Huntington, Samuel, *Political Order in Changing Societies* (New Haven: Yale University Press, 1968).

Polity IV, "Polity IV Project: Political Regime Characteristics and Transitions, 1800-2008," Polity IV: Regime Authority Characteristics and Transitions Datasets (2009), http://www.systemicpeace.org/inscr/inscr.htm.

Przeworski, Adam, Michael Alvarez, Jose Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990* (New York: Cambridge University Press, 2000).

Rajkumar, Andrew Sunil and Vinaya Swaroop, "Public Spending and Outcomes: Does Governance Matter?" *Journal of Development Economics*, vol. 86, no. 1 (April 2008), pp. 96-111.

Randolph, Susan, Sakiko Fukuda-Parr, and Terra Lawson-Remer, "Economic and Social Rights Fulfillment Index: Country Scores and Rankings," *Journal of Human Rights*, vol. 9, no. 3 (July-September 2010), pp. 230-261.

Reinikka, Ritva and Jakob Svensson, "Explaining Leakage of Public Funds," World Bank, World Bank Policy Research Working Paper, no. 2709 (November 2001), http://go.worldbank.org/EG26ZQG0H0.

Robinson, Mark (ed), *Budeting for the Poor* (Basingstoke: Palgrave Macmillan, 2008).

Serageldin, Mona, John Driscoll, Liz Meléndez San Miguel, Luis Valenzuela, Consuelo Bravo, Elda Solloso, Clara Solá-Morales, and Thomas Watkin, "Assessment of Participatory Budgeting in Brazil," Inter-American Development Bank (2003), http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=995174.

Sen, Amartya, "Food and Freedom," *World Development*, vol. 17, no. 6 (June 1989), pp. 769-781.

Tolmie, Courtney, "Public Spending, Governance, and Development: A Review of the Literature," Results for Development Institute, Working Paper (August 2007), http://www.resultsfordevelopment.org/sites/resultsfordevelopment.org/files/resources/LitReview_SpendingGovDev.pdf.

United Nations Children's Fund UNICEF, "Open Dialogue: Eyes on the Budget as a Human Rights Instrument," Meeting Report (December 2007), http://www.unicef.org/policyanalysis/files/Open_Dialogue_-_Eyes_on_the_Budget_as_a_Human_Rights_Instrument.pdf.

United Nations Children's Fund UNICEF, Downloadable Statistical Tables from the State of the World's Children 2009 (2009), http://www.unicef.org/sowc09/statistics/tables.php.

United Nations Development Programme (UNDP), *Human Development Report 2002: Deepening Democracy in a Fragmented World* (New York: Oxford University Press, 2002).

United Nations Development Programme (UNDP), *Human Development Report 2007/2008: Fighting Climate Change: Human Solidarity in a Divided World* (New York: Oxford University Press, 2007).

United Nations Development Programme UNDP, Human Development Report 2009 Statistical Tables (2009), http://hdr.undp.org/en/media/HDR_2009_Tables_rev.xls.

World Bank, *World Development Report 2000/2001: Attacking Poverty* (New York: Oxford University Press, 2000), http://go.worldbank.org/7KWQQ1WVT0.

World Bank, "Brazil: Toward a More Inclusive and Effective Participatory Budget in Porto Alegre, Volume I: Main Report," The International Bank for Reconstruction and Development/The World Bank (January 2008), http://go.worldbank.org/BQJ2KJTHB1.

World Bank, "World Development Indicators 2010," The International Bank for Reconstruction and Development/The World Bank (April 2010), http://data.worldbank.org/data-catalog/world-development-indicators/wdi-2010,

Varshney, Ashutosh, "Democracy and Poverty," in Deepa Narayan (ed), *Measuring Empowerment: Cross-Disciplinary Perspectives* (Washington, D.C.: The World Bank, 2005).

Appendix

Annex I: Definitions and Sources of Variables

Regime Type and Institutional Quality Indicators			
Variable Name	Indicator	Notes	Source
FHCL	Freedom House Civil Rights Index score	Data for 2008	Freedom House (2009)
FHPR	Freedom House Political Rights Index score	Data for 2008	Freedom House (2009)
OBIVALUE	Open Budget Index score	Data for 2008	OBI (2008a)
LEGSTRENGTHINDEX	Legislative strength index, constructed from the 2008 Open Budget Survey	Straight average of country scores for questions 69, 74 – 81, 96, 98, and 100 from the Open Budget Survey	OBI (2008a, 2008b)
SAISTRENGTHINDEX	Supreme Audit Institution strength index, constructed from the 2008 Open Budget Survey	Straight average of country scores for questions 111, 114, and 116 – 123 from the Open Budget Survey	OBI (2008a, 2008b)
PARTICIPATIONINDEX	Citizen Participation Index, constructed from the 2008 Open Budget Survey	Straight average of country scores for questions 60 – 64, 70 – 71, and 75 – 78 from the Open Budget Survey	OBI (2007, 2008a)
POLITY	Polity IV Regime Type	Data for most recent year scores were available in the 2008 Polity IV Annual Time Series	Polity IV Project (2009)

Human Development / Economic and Social Rights Proxy Variables			
Variable Name	Indicator	Notes	Source
ESRF1	Economic and Social Rights Fulfillment Index-1 (non high-income OECD countries)	Data for 2000-2007	Randolph et al. (2009)
GDI	Gender Development Index score	Data for 2007	UNDP (2009)
GEM	Gender Empowerment Measure score	Data for 2007	UNDP (2009)
HDI	Human Development Index score	Data for 2007	UNDP (2009)
MEASLES	Measles immunization prevalence	Percent of children aged 12-23 months receiving at least one dose of measles immunization (2007)	World Bank WDI (2009)
MPI	Multidimensional Poverty Index	Data are for 2010 but span multiple years depending on the country	Alkire and Santos (2010)
PRIMPERSIST	Persistence to last grade of primary education (% of age group)	As a percentage of the appropriate age group (2006)	World Bank WDI (2009)
SANTOTAL	Sanitation access	% of population using improved sanitation (2006)	UNICEF SOWC (2009)
U5MR	Under 5 mortality	Mortality rate among population under 5 years per 1,000 (2007, 2008)	World Bank WDI (2010)
IMR	Infant mortality rate	Mortality rate among population under 1 year per 1,000 live births (2007, 2008)	World Bank WDI (2010)
WATERTOTAL	Water access	% of population using improved water access (2006)	UNICEF SOWC (2009)
LITFEMALE	Female Adult Literacy	Literacy rate among women aged 15 and over (2007)	World Bank WDI (2009)
LITMALE	Male Adult Literacy	Literacy rate among men aged 15 and over (2007)	World Bank WDI (2009)

Expenditure and Financial Resources Proxy Variables			
Variable Name	Indicator	Notes	Source
GDP	GDP per capita	In Purchasing Power Parity 2005 USD (2008)	World Bank WDI (2009)
PUBLICHEALTHEXPGDP	Public health expenditure	Public health expenditures as a % of GDP (2007)	World Bank WDI (2010)
PUBLICHEALTHEXPTOTAL	Public health expenditure	Public health expenditure as a % of total government expenditure (2007)	World Bank WDI (2010)
HEALTHEXPPERCAP	Total health expenditures per capita	In PPP USD (2007)	World Bank WDI (2010)
EDUEXP	Public education expenditures	Education expenditures as a % of total government expenditures (2000 – 2007)	UNDP (2009)
EDUEXPPERCAP	Public education expenditures per pupil	Public expenditure on primary education per pupil in PPP USD (2003-2006)	UNDP (2009)

Annex II: Descriptive Statistics of Variables

Regime Type and Institutional Quality Indicators					
Variable Name	# Observations	Min	Max	Mean	Standard Deviation
FHCL	178	1	7	3.23	1.739
FHPR	178	1	7	3.41	2.087
OBIVALUE	85	0	88	39.46	25.374
LEGSTRENGTHINDEX	85	0	91.67	41.59	20.23
SAISTRENGTHINDEX	85	0	100	45.18	24.51
PARTICIPATIONINDEX	85	0	83.33	31.23	21.66
POLITY	153	-10	10	3.94	6.328

Human Development / Economic and Social Rights Proxy Variables					
Variable Name	# Observations	Min	Max	Mean	Standard Deviation
ESRF-1	101	15.94	96.20	71.6910	17.26959
ESRF-2	24	76.97	94.66	87.6846	3.80316
GDI	156	.311	.963	.71796	.182747
GEM	108	.136	.925	.58672	.158099
GINI	124	24.70	74.30	40.7274	10.04481
HDI	179	.340	.971	.73515	.173450
HPI	132	1.70	56.30	21.0152	15.03079
LITFEMALE	98	20.84	99.81	82.2701	20.31225
LITMALE	98	36.68	99.81	88.8201	13.76535
MEASLES	179	23	99	86.81	13.747
PRIMSURVIVAL	88	36	100	85.29	16.975
SANTOTAL	148	5	100	67.31	30.066
U5MR(2008)	179	2.8	209.0	46.88	52.51
IMR(2008)	179	1.8	135.2	32.89	32.17
WATERTOTAL	152	22	100	83.73	18.011

Expenditure and Financial Resources Proxy Variables					
Variable Name	# Observations	Min	Max	Mean	Standard Deviation
GDP	177	297	72,969	12,504	13962.712
PUBLICHEALTHEXPGDP	177	.23	11.51	3.6833	2.05105
PUBLICHEALTHEXPTOTALHEALTH	177	.92	29.94	11.2264	4.64286
HEALTHEXPPERCAP	172	1.00	7289.82	908.1172	1257.1544
EDUEXP	78	8.43	31.11	15.4921	4.69068

Annex III: Additional Regression Results

	ESRF1 (1)	HDI (2)	GDI (3)	GEM (4)	MPI (5)	Primary Persist (6)	Sanitation Access (7)	Female Youth Lit (8)	Male Youth Lit (9)	Gini Coef . (10)
OBIVALUE	.163* (1.92)	.002** (3.35)	.002** (3.71)	.000 (.244)	-.001 (-1.53)	.178 (1.55)	.043 (.50)	-.107 (-1.10)	-.066 (-.85)	.030 (.67)
GDP per capita (Ln)	-2.80 (-1.34)	-	-	.077** (3.88)	-.085** (-4.54)	9.22** (2.67)	11.58** (5.01)	14.80** (5.70)	8.766** (4.24)	1.02 (.80)
Sub-SaharanAfrica	-30.76** (-3.01)	-.327** (-8.60)	-.318** (-7.92)	.009 (.15)	.101 (1.54)	6.21 (.59)	-28.86** (-3.26)	.239 (.03)	-5.734 (-.78)	17.63** (4.33)
Arab States	-3.88 (-.36)	-.138** (-2.99)	-.132** (-2.57)	-.330** (-5.17)	-.042 (-.61)	13.39* (1.71)	-5.37 (-.57)	-21.45** (-2.20)	-10.81 (-1.39)	5.87 (1.38)
Asia Pacific	-11.09 (-1.12)	-.205** (-5.51)	-.185** (-4.62)	-.100* (-1.84)	-.023 (-.37)	5.80 (.66)	-11.40 (-1.37)	3.27 (.37)	-1.48 (-.21)	8.76** (2.42)
Europe and CIS	4.96 (.51)	-.069* (-1.92)	-.054 (-1.37)	-.095** (-2.21)	-.067 (-1.22)	15.15** (2.43)	9.57 (1.28)	12.70 (1.56)	5.37 (.41)	1.48 (.49)
Latin America	-3.75 (-.39)	-.083** (-2.22)	-.073* (-1.82)	-.026 (-.56)	-.018 (-.31)	-1.26 (-.19)	-2.82 (-.37)	4.06 (.50)	-1.72 (-.27)	19.51** (6.23)
Constant	101.81** (4.79)	.809** (19.16)	.779** (17.30)	-.074 (-.39)	889** (5.09)	-9.26 (-.29)	-24.85 (-1.08)	-44.76* (-1.87)	16.76 (.88)	21.51* (1.79)
Observations (#)	62	85	78	60	60	44	74	55	55	77
Adjusted R^2	.509	.716	.711	.664	.753	.585	.732	.645	.521	.491

** Significant to .05 level * Significant to .1

Models in this table summarize the results of some of the additional regression models we constructed. In model 1, the OBI is only significant to 0.1 as a predictor of scores on the ESRF1 in the presence of controls for income and region. In models 2 and 3, the control for income is omitted since the log of GDP per capita is a component of the dependent variables in these models. Although the OBI is a statistically significant independent variable in these models, its effect size is so small that it is barely perceptible. In other models shown, the OBI is not a statistically significant predictor of the given outcome variable.