

# Partner country ownership

## Does better governance and commitment to development attract general budget support?\*

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### Abstract

General budget support (GBS) is funding which is not earmarked for a specific sector or project, but provided as direct financial support to the public sector in the recipient country. It thus involves the recipient governments and uses the recipient countries' own financial and political systems. This type of aid is argued to have a positive effect on aid efficiency if it is targeted at countries with good governance and a stronger commitment to development, as it improves recipient ownership and has lower transaction costs than alternative aid modalities. Recipient country ownership is also one of the main priorities in the Paris Agenda. In this study, data on commitments of Official Development Assistance (ODA) from 23 DAC donors to 115 recipient countries in the period 1995-2009 is used to estimate the probability of receiving GBS. The results show that the DAC donors are selective with respect to the quality of governance, and there is some support that the recipient governments' commitment to development is a significant determinant for the allocation of GBS. Empirical evidence showing that DAC donors are more selective when allocating GBS than for program aid in total is also presented underlining the importance of using disaggregated data when analyzing the allocation of aid.

**Keywords:** Aid allocation; General budget support; Good governance; Commitment to development

**JEL classification:** F35

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## 1. Introduction

In the Paris Agenda (the Paris Declaration for Development, the Accra Agenda for Action and the Busan Partnership for Effective Development Cooperation), recipient country ownership and involvement are emphasized as necessary in order to increase the efficiency of aid.<sup>1</sup>

General Budget Support (GBS) is funding which is not earmarked for a specific sector or project, but provided as direct financial support to public budgets in the recipient country. Thus, GBS is a type of aid where the donor in practice delegates the responsibility for the distribution and use of aid funds to the recipient government. In that way, GBS is an instrument the donors that have committed to the Paris Agenda could use in order to increase the involvement of the recipient. However, aid donors have often been accused of not following up on their rhetoric when allocating aid and the actual allocation of aid may not be in line with the commitments made in the Paris Agenda.

Looking at the data for commitments of GBS from 1995 to 2009 only eight percent of all commitments of project and program aid consist of or include GBS and the development during that period has been slightly negative.<sup>2</sup> The use of GBS versus project aid involves a trade-off between the loss of control and possible benefits, such as lower transaction costs and recipient country involvement. Thus, descriptive statistics indicates that the DAC donors prefer aid types where the possibility of control and surveillance is larger than for GBS. The low use of GBS could also indicate that the donors are more selective when allocating GBS compared to other aid modalities, where selectivity refers to targeting of countries where the expected efficiency of aid is higher controlling for recipient needs (e.g., average income).

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<sup>1</sup> The Paris Declaration states that “Donors commit to: Respect partner country leadership and help strengthen their capacity to exercise it” (OECD, 2005/08, p. 3). In the Accra Agenda for Action the importance of recipient country ownership is repeated: “Developing countries determine and implement their development policies to achieve their own economic, social and environmental goals. We agreed in the Paris Declaration that this would be our first priority.” (OECD, 2005/08, p. 16). Also see Bigsten and Tengstam (2012) for a more thorough discussion of the Paris Agenda.

<sup>2</sup> The data on aid commitments are from the OECD database Creditor Reporting System (CRS) (OECD, 2012), and descriptive statistics for GBS are provided in Figure 1. See Table 1 for a classification of different aid types.

The main objective of the empirical analysis is to test the degree of selectivity in the allocation of GBS. In particular, the importance of the quality of governance and commitment to development in the recipient countries for the probability of receiving GBS is estimated. The analysis is carried out exploiting information on aid type or aid modality in the data available from the Creditor Reporting System (CRS). The data are on commitments of Official Development Assistance (ODA) from 23 DAC donors to 115 recipient countries in the period 1995-2009. By analyzing the allocation of GBS, I seek to answer two main questions. First, do the DAC donors target countries where funding in the form of GBS is likely to have a stronger positive effect on economic development in the recipient countries? The emphasis on recipient ownership in the Paris Agenda is based on an objective of improving aid efficiency, and the donors should therefore allocate GBS to countries where the funds are expected to have the strongest positive effect on economic development. A second question is how recipient countries can attract GBS. This is an important question, as GBS improves recipient ownership and lowers the transactions costs of aid, and thus has some advantages over alternative aid types.<sup>3</sup> GBS is also very likely the preferred type of aid by the recipient government, and it is therefore useful to know whether policy reforms can increase the probability of receiving this type of aid.

Thus, the paper contributes to the literature on aid allocation by using disaggregated data to investigate the degree of selectivity among the DAC donors. In order to promote the use of GBS among taxpayers in the donors countries, it is crucial that there is clear empirical support for a high degree of selectivity as the donors' ability to control the use of the aid funds is limited compared to, say, project aid. To my knowledge, there are no other empirical papers focusing on the allocation of GBS from bilateral donors. The paper also relates to the discussion on recipient ownership and aid effectiveness in the Paris Agenda. Unless the donors' follow up on their commitments in the Paris Agenda, it has limited use.

The main results from a pooled time-series cross-section analysis confirm the hypotheses that the DAC donors' are selective with respect to the quality of governance in the recipient countries as well as their commitment to development. The results are robust to adding

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<sup>3</sup> See for instance Koeberle and Stavreski (2006).

additional variables and the choice of governance indicator. However, the quantitative effect of governance varies depending on the aspect of governance captured by the proxy variables. For the commitment to development the result is sensitive to the choice of proxy variable and does not hold when restricting the sample to donors with former colonies among the recipient countries. While there is a positive and statistically significant effect of public spending in health the result does not hold when using public spending in education.

The paper is structured as follows: Section 2 provides a summary of the relevant literature and presents the main hypotheses tested in the analysis. Section 3 presents the empirical model, methodology and data. The results from the baseline model as well as several extensions and robustness tests are presented and discussed in Section 4. In the last section, I make some concluding remarks.

## **2. Related literature and main hypotheses**

There is a vast empirical literature analyzing the allocation of aid, and implicitly the behavior of aid donors, focusing on their main motivations for aid. Some important contributions to the literature include Alesina and Dollar (2000), Alesina and Weder (2002), Berthélemy and Tichit (2004) and Neumayer (2003). A common feature for the majority of the empirical studies is that they normally use data on total bilateral or multilateral aid commitment. Recently, more disaggregated data have been exploited to test for the possible heterogeneity of aid. Thiele et al. (2007) use sectoral data to compare the actual targeting of different sectors to the objectives given in the Millennium Development Goals (MDGs), and find that “*there is a considerable gap between donor rhetoric and actual aid allocation*” (p. 622). Clist et al. (2012) use disaggregated data to look at the allocation of GBS from the World Bank and the European Commission, and Dietrich (2011) disaggregates the data by aid channel to test whether donors tend to bypass recipient governments in countries with a low quality of governance. The studies carried out by Alesina and Weder (2002) and Dietrich (2011) give a nice illustration of why it can be essential to employ disaggregated aid data. The main result in the former study is that corruption does not reduce aid flows to a country, while the latter shows that when the quality of governance is low (e.g., the level of corruption is high); donors tend to use non-state actors such as NGOs to implement aid projects in the country. Thus, aggregated data conceal a lot of information and the conclusions drawn may give an

inaccurate picture of what is really driving the behavior of aid donors. While the existing empirical evidence does not indicate selectivity among donors in allocation of total bilateral aid (Alesina and Dollar, 2000; Alesina and Weder, 2002; Berthélemy and Tichit, 2004), it is possible that the degree of selectivity differs between different aid modalities.

A highly relevant question regarding the choice of aid modality (e.g. project aid or budget support) is whether the efficiency of aid with respect to growth and poverty reduction is likely to differ, and how. In the empirical literature on aid effectiveness, the results vary between studies. Roodman (2007) tests the robustness of seven important aid-growth studies,<sup>4</sup> concluding that most results are not robust to changes in the sample, length of time periods and model specifications. One of the explanations provided by Roodman for the lack of robustness is that aid is heterogeneous<sup>5</sup>. Data on aid disaggregated by type, sector and purpose is only available for commitments and only from 1995 onwards. The limited data available makes it difficult to estimate the effect of different types of aid on an outcome variable such as economic growth. First, one has to construct an estimate for disbursements based on aid commitments. Second, the time period is quite short for running regressions for the long-term effect of aid on for example economic growth. There are however some empirical studies trying to estimate the effect of aid disaggregated by type on growth, including Clemens et al. (2012), Rajan and Subramanian (2008) and Uttara and Strobl (2008). While Clemens et al. find a significant positive effect of short-impact aid (such as budget and balance of payments support), the results in Uttara and Strobl show a significantly negative effect of financial program aid (budget support) and a significant and positive effect of project aid. Rajan and Subramanian do not find evidence of any significant effects on growth, regardless of the type of aid. None of the mentioned papers investigate possible heterogeneity between different recipient countries with the exception of including interaction variables between policy variables and the aid variables (following the model specification in Burnside and Dollar, 2000). It is realistic to assume that different types of aid will have different effects on the economy depending on other characteristics of the recipient countries. Thus, if donors do not

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<sup>4</sup> Burnside and Dollar (2000), Collier and Dehn (2001), Guillaumont and Chauvet (2001), Hansen and Tarp (2001), Collier and Dollar (2002), Collier and Hoeffler (2004), and Dalgaard et al. (2004).

<sup>5</sup> The other two explanations provided by Roodman (2007) are that aid is not as important as other factors in increasing growth and that much aid is poorly used.

target the ‘right’ recipients with different types of aid, this may explain some of the lack of robustness of the results.

When donors determine whether or not a country is eligible for GBS, there are some factors that have been emphasized in the literature on budget support as important. First, the efficiency or ability of the recipient country to effectively spend the aid (the quality of recipient country systems) is relevant. Koeberle and Stavreski (2006) emphasize that donors should be selective with respect to the capacity to allocate the aid flows efficiently when allocating budget support. Thus, the institutions and quality of governance is important when choosing between project aid and budget support. Dietrich (2011) argues that if the quality of governance in the recipient country is poor it might be more efficient to avoid costs related to corruption, bureaucracy, etc., by by-passing state actors. This is in line with the arguments made by Radelet (2004), who highlights the importance of donors being more selective with respect to average income and governance measures, and that the aid modality chosen should be dependent on the quality of governance, in order to improve aid effectiveness. Thus, the research question addressed in the analysis is whether the donors are selective with respect to the quality of governance:

*Is the probability of receiving GBS higher for countries with better governance?*

The governance indicators are positively correlated with average income.<sup>6</sup> Thus, the poorest countries are normally also the countries with a low quality of governance. Even if aid should be targeted at the poorest countries, donors can be selective with respect to the quality of governance. If donors target recipient countries with a quality of governance above the expected level given its average income, the probability of receiving GBS should increase with the measure of governance, controlling for average income. As concluded by Radelet (2004: 19):

*“Poorly governed countries should not only receive less money, they should receive more of it as project aid, it should come with a shorter time commitment, should be*

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<sup>6</sup> See correlation matrix in the Appendix.

*focused on a narrower set of activities, and much of it should be distributed through NGOs”.*

Koerberle and Stavreski (2006), on the other hand, highlight possible benefits of GBS on the quality of governance in the recipient countries. When providing financial assistance to the budgets of the recipient government rather than using earmarked project aid, it could lead to improvements in country ownership, transparency and efficiency in budget spending, and government accountability.<sup>7</sup> If GBS does have a significant positive effect on governance measures in the long run, using it as an ‘investment’ in better governance requires that the donor has a long run perspective. However, as most donor countries are dependent on a certain level of support among the public, they might be more concerned with results in the short run. It is also unlikely that simply providing GBS will improve governance in a country unless there is already a certain level of human capital and quality of governance. GBS may as well lead to an increase in corruption, especially if the recipient government is already relatively corrupt, as the spending of GBS is more difficult for a donor to monitor than funds for specific projects. Thus, the argument of Koerberle and Stavreski will, at best, hold if the donor has a long-term perspective and targets the ‘right’ countries, while in the short-run donors should target recipient countries with better governance when controlling for income levels, to improve the efficiency of aid. The majority of empirical studies analyzing the effect of foreign aid on the quality of governance in the recipient countries conclude that aid does not seem to have a positive effect on democracy or other measures of political institutions. For example, Alesina and Weder (2002) test the effect of ODA on the quality of governance. The results indicate that an increase in ODA will lead to an increase in corruption but the authors emphasize that the results must be interpreted with caution due to the way corruption is measured and problems with determining the direction of causality.<sup>8</sup> Djankov et al. (2008) test the effect of aid on democracy and political institutions in the recipient countries, instrumenting for foreign aid to deal with the endogeneity problem.<sup>9</sup> They conclude that aid

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<sup>7</sup> Eifert and Gelb (2005) also argue that budget support is an investment to improve the budget and financial systems in the recipient countries.

<sup>8</sup> Other studies with similar results include Knack (2004), and Rajan and Subramanian (2007).

<sup>9</sup> They instrument for aid using initial income, population and the standard variables for strategic interests in the aid allocation literature and also test the model using system GMM.

reduces the quality of political institutions, and the negative effect is stronger than the effect of oil rents. However, as emphasized before, aid is not homogenous and different types of aid might influence the quality of governance in recipient countries differently. Both Alesina and Weder (2002) and Djankov et al. (2008) use aggregate aid data in their analyses.<sup>10</sup> Focusing only on the Millennium Challenge Corporation (a scheme for performance based aid) Öhler, Nunnenkamp and Dreher (2012) find that rewarding recipients fighting corruption ex post does have a positive effect on the level of corruption in the recipient countries.

In addition to the quality of governance, Koeberle and Stavreski (2006) also emphasize the importance of the level of commitment to development. Assuming that development is (one of) the objectives of the donor, a higher commitment to development by the recipient government implies alignment in the preferences of the donor and recipient. Alignment in preferences increases the probability that the recipient country allocates the funds in line with the donor's intentions, and thus reduces the cost of monitoring the use of aid. A stronger commitment to development in the recipient government should therefore increase the probability of receiving GBS (Koeberle and Stavreski, 2006; Cordella and Dell'Arricia, 2007; Clist et al., 2012), and is the basis for the second research question:

*Does a stronger commitment to development by the recipient government increase the probability of receiving GBS?*

### **3. Data and methodology**

The empirical model tested is given in Equation 1.

$$\Pr(y_{ijt} = 1) = \beta' X_{ijt-1} + \lambda_t + \alpha_i + u_{ijt}, \quad (1)$$

where  $i$  indexes the donor country,  $j$  the recipient country and  $t$  the time period.<sup>11</sup> The dependent variable in the model given in Equation 1 is a binary variable equal to one if GBS

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<sup>10</sup> Alesina and Weder (2002) use ODA per capita and Djankov et al. (2008) use ODA in percent of GDP.

<sup>11</sup> In a more general form the probability of receiving general budget support is



is larger than zero.  $X$  is a vector of regressors (either dyadic or recipient-specific),  $\lambda_t$  represents time dummies,  $\alpha_i$  is donor fixed effects, and  $u_{ijt}$  is the error terms.<sup>12</sup> The baseline model is estimated using both pooled OLS and Probit models with standard errors clustered by group (donor-recipient).<sup>13</sup>

In addition to the binary dependent variable model in Equation 1, a Tobit model is estimated to test the effect on the volume of GBS. The Tobit model is used because the dependent variable is censored and it is likely that the variables determining the probability of receiving GBS will also have an effect on the size of GBS.

$$y^* = \delta'X_{ijt-1} + \mu_t + \alpha_i + e_{ijt}, y = \begin{cases} y^* & \text{if } y^* > 0 \\ - & \text{if } y^* \leq 0 \end{cases} \quad (2)$$

The dependent variable ( $y^*$ ) is GBS in percent of total program and project aid.  $\mu_t$  and  $\alpha_i$  represents time and donor fixed effects, respectively, and  $e_{ijt}$  is the error terms.

The data on GBS and total program and project aid used to construct the dependent variables are annual aid commitments for the period 1995-2009 from the CRS (OECD, 2012).<sup>14</sup> Commitments are used for two reasons. First, aid data disaggregated by aid modality are not available for disbursements, and second, commitments are considered to better reflect the aid policies of the donors in the literature on aid allocations (i.e., the supply of foreign aid) (Dudley and Montmarquette, 1976; McGillivray and White, 1993). An overview of the classification of aid modalities in the CRS is provided in Table 1. As the focus in the paper is

$$y_{ijt} = \begin{cases} 1 & \text{with prob. } p \\ 0 & \text{with prob. } 1-p \end{cases}, \text{ where } p \equiv \Pr(y_{ijt} = 1 | X) = F(X_{ijt}'\beta).$$

<sup>12</sup> An overview of all the variables included in the baseline model is provided in Appendix A.

<sup>13</sup> Angrist and Pischke (2009) argue that marginal effects in the Probit model often will be very similar to a linear probability model using OLS regression. Interpreting the empirical results from an OLS model is straightforward and would therefore be preferred if the results are similar.

<sup>14</sup> “A commitment is a firm written obligation by a government or official agency, backed by the appropriation or availability of the necessary funds, to provide resources of a specified amount under specified financial terms and conditions and for specified purposes for the benefit of a recipient country or a multilateral agency.” (OECD, 2012).

on the countries receiving GBS given that they are aid recipients, the analysis test the probability that a country receive GBS given that they receive program and/or project aid in the same period.<sup>15</sup> Aid types classified as “other” in Table 1 are therefore excluded from the data. Thus, if a country only receives humanitarian aid, it is not included in the sample.<sup>16</sup>

[Table 1]

One possible problem with annual data on aid commitments is the timing of reporting and the time horizon for GBS committed. A positive observation of commitments of GBS in year  $t$  followed by no commitments of GBS in year  $t+1$  does not necessarily mean that GBS is to be disbursed in only one year. It could also reflect that the committed amount of GBS in year  $t$  is meant to be disbursed in year  $t+1$  to  $t+s$ , where  $s \geq 1$ . Thus, if a donor country for example commits to provide a certain amount of general support over the next three years, this will only lead to one positive observation in the data on commitments. This generates a problem when estimating the model as it looks like GBS is only provided in one year. Therefore, the annual data are used to construct three year averages for all variables in the model. In addition to dealing with the timing of commitments it also removes ‘noise’ in the data and the results can more easily be compared to results for the allocation of aggregate aid commitments where averaging across time periods is quite common.

Other types of program aid, such as actions related to debt, can be argued to have similar effects on the recipient economy as GBS. However, there is one crucial difference between GBS and debt relief. GBS can be used by the recipient government to repay debt or increase public spending in any sector, while debt relief does not leave the decision to reduce sovereign debt or increase spending to the recipient country. Thus, while debt support, as GBS, improves the financial situation for the recipient government, the donor does not

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<sup>15</sup> Only including observations where program and/or project aid are positive could lead to a selection bias. However, using a Heckman selection model the null hypothesis that the selection of countries receiving GBS is independent of the selection process for receiving aid cannot be rejected and the results are not sensitive to controlling for selection.

<sup>16</sup> Throughout the paper the term aid will refer to the sum of project and program aid, and is the equivalent to Official Development Aid (ODA) excluding humanitarian aid, administrative costs of donors, refugees in donor countries and unspecified aid.

delegate the responsibility of allocating the funds to the recipient country and thus the problem with control is not present. While donors' should always be selective when allocating any type of aid, the degree of selectivity should be considerably higher for GBS than for other types of program aid and project aid. However, the model is also estimated using program aid as the dependent variable, in order to compare the degree of selectivity. This will be discussed more thoroughly in section 4.

The development in GBS in the time period 1995-2009 using averages over three year periods is illustrated in Figure 1. In the period 1995-97 almost ten percent of all positive commitments of aid included, or consisted of, GBS. For the following three-year periods, the share has remained close to eight percent. Looking at GBS in percent of project and program aid, there has been a similar trend, with a slight decrease from 1995-97 to 2004-06. In the period 2007-09, GBS on average accounted for 28 % of total project and program aid. Thus, positive commitments of GBS are not often reported by the DAC donors, but for the positive observations, GBS accounts for a considerable share of aid committed. GBS is likely to be the preferred type of aid from the recipient government, and the transaction costs related to this type of aid is lower for both the donor and recipient. The low use of GBS could then indicate that the DAC donors are highly selective.

[Figure 1]

Looking at the donors and recipients with the highest frequency of observations where GBS is larger than zero some interesting patterns emerge. Table 2 lists the ten donors and recipients with the highest frequency of GBS, measured as the share of all positive observations of commitments of aid where GBS is larger than zero. Mozambique and Tanzania have the highest share among the recipient countries. Of all positive commitments of project and/or program aid to Mozambique, 52 % include or consist of GBS. Seven of the top ten recipients are located in Sub-Saharan Africa (eight are located in Africa) and they are all former colonies of France, Portugal, Spain or the UK. The majority of the recipients only rarely receive GBS, while a few countries have a relatively high number of positive observations

reported in the period 1995-2009. Of the 115 recipient countries in the sample used in the analysis, there are no positive observations of commitments of GBS for 23 countries.<sup>17</sup>

Japan, France, and the Netherlands are the donors most frequently committing to allocate GBS. Of all the positive observations for aid from Japan, 23 % either include or consist of GBS. Based on the results in the literature on bilateral aid allocation, we know that Japan and France are strongly motivated by self-interests, while the Netherlands allocates aid mostly based on recipient needs (Alesina and Dollar, 2000; Berthélemy, 2006). Thus, both self-interested and more altruistic donors use this type of aid. South Korea is the only donor that has never reported any commitments of GBS.

[Table 2]

The main proxy variable for the quality of governance used is the government effectiveness (GE) indicator from the Worldwide Governance Indicators (WGI). The WGI also provide five other indicators capturing different aspects of governance;<sup>18</sup> Voice and accountability (VA), control of corruption (CC), political stability and absence of violence (PV), regulatory quality (RQ), and rule of law (RL) (Kaufmann et al., 2010). Government effectiveness is included in the baseline model as this is an indicator meant to reflect aspects of governance that is relevant for the ability of recipient governments to effectively make use of GBS. In addition, Clist et al. (2012) find that government effectiveness is significant for the allocation of GBS from the World Bank and the EC. However, the different indicators are highly correlated and the effect of government effectiveness can thus be interpreted as the effect of an overall improvement in the quality of governance, and when testing the robustness of the results

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<sup>17</sup> Azerbaijan, Bahrain, Belarus, Botswana, Costa Rica, Croatia, Cuba, Dominican Rep., Equatorial Guinea, Fiji, Iran, Korea, Libya, Malaysia, Mexico, Montenegro, Oman, Saudi Arabia, Slovenia, Syria, Turkmenistan, Ukraine and Venezuela.

<sup>18</sup> Kaufmann et al. (2004) define governance as *“the exercise of authority through formal and informal traditions and institutions for the common good, thus encompassing: (1) the process of selecting, monitoring, and replacing governments; (2) the capacity to formulate and implement sound policies and deliver public services, and (3) the respect of citizens and the state for the institutions that govern economic and social interactions among them.”* (p. 254). See Williams and Siddique (2008) for a discussion of possible issues related to the use of different types of governance indicators.

alternative measures of governance are used. The indicators range from -2.5 to 2.5, where a higher score reflects a higher quality of governance, but the variation within each country is relatively small.<sup>19</sup> To avoid problems with reverse causality, the governance is lagged one period when included in the model.

Alignment of the objectives of the governments of the donor and recipient countries makes GBS preferable to project aid (Cordella and Dell'Arricia, 2007). Assuming that at least one of the objectives of the donors when allocating aid is to reduce poverty and improve the welfare of the poor, a higher commitment to development in the recipient country should then have a positive impact on the probability of receiving GBS. The recipient governments' commitment to development is not possible to measure directly. Two different groups of proxies that can be used are outcome variables, such as child mortality or life expectancy, or public expenditures in the social sectors. Public spending in social sectors would reflect the interest of the current government to improve welfare in the country, while outcome variables depend to a larger extent on the effort of governments in the past. Gomanee et al. (2005a) argue that countries with higher expenditures in social sectors (sanitation, education and health) on average increase the benefits for the poor share of the population. Outcome variables are also likely to depend on other factors, such as whether a country has a problem with HIV or malaria. Based on the relatively high number of observations, expenditures in the health sector in percent of total expenditures lagged one period is included as a proxy for the commitment to development in the baseline model. However, alternative proxies are tested in the robustness section.

The degree of aid dependency should also be controlled for, but the expected effect is ambiguous. Clist et al. (2012) argue that more aid dependent countries have higher transaction costs (if the aid is allocated from several different donors) related to project aid, and thus budget support would be preferable. Cordella and Dell'Arricia (2007) emphasize that when the projects funded by foreign aid are larger relative to domestic resources it reduces the possibility for the recipient government to reallocate their own resources. When the problem of fungibility is reduced, project aid will be relatively more efficient. This is consistent with

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<sup>19</sup> The overall variation for GE is 0.59, but the within variation is only 0.16 for the sample used in the analysis.

the results by Hagen (2006), showing that when the objectives of the donor and recipient differ, an increase in the share of available resources controlled by the donor will reduce the problem of fungibility. On the other hand, Moss et al. (2006) argue that when a relatively larger share of public revenues comes from abroad, the governments' incentives to invest in public goods are lower and the governments will be less accountable to their citizens. Aid dependency is usually measured as net ODA in percent of GDP. Alternative measures available from the World Bank include net ODA in percent of gross capital formation, central government expenditure or imports of goods and services. The number of observations for net ODA in percent of gross capital formation is considerably higher than for net ODA in percent of GDP. Thus, the former is included in the baseline model and is also lagged one period.<sup>20</sup>

GBS is financial support to the recipient government, and it is therefore possible that allocating GBS is a way for donors to assist countries with balance of payment problems. Whether or not a recipient country has an IMF lending program (either Extended Credit Facility, Standby Arrangement or Extended Fund Facility) is therefore included as a proxy for balance of payment problems, expecting a positive effect on the probability of receiving GBS. The data are from the IMF (2012b). In addition, policy conditions are (always) attached to IMF lending,<sup>21</sup> and donors might perceive the information that a country is borrowing from the IMF as an indicator that the recipient country will implement policy reforms in order to improve economic stability and growth.<sup>22</sup> Thus, a positive effect of this variable may also indicate that the IMF serves as a 'gatekeeper' for flows from official capital sources as well as for private creditors.<sup>23</sup>

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<sup>20</sup> The correlation between the two alternatives is 0.81.

<sup>21</sup> The nature of the conditions following an IMF lending arrangement varies, but they are often related to economic policies meant to improve the macroeconomic condition of the country (IMF, 2012c).

<sup>22</sup> There are several papers analyzing the catalytic effect of lending from International Financial Institutions in general, and the IMF specifically. See for instance Rodrik (1995), Bird and Rowlands (1997; 2002) and Bauer et al. (2012).

<sup>23</sup> See for instance Lombardi and Woods (2008), Hagen (2009) and Hagen (2012).

Donor-recipient relationships are significant determinants for the allocation of total bilateral aid.<sup>24</sup> To control for the economic, colonial and political ties between the donor and recipient three different proxy variables are included. These are bilateral exports from the donor to the recipient measured in percent of total exports from the donor, a dummy variable indicating whether or not the donor and recipient country has ever had a colonial relationship, and an index variable ranging from -1 (least similar) to 1 for the similarity on voting patterns in the UN General Assembly (UNGA).

GDP per capita is included to control for average income, and the effect is expected to be negative as richer countries are less likely to receive aid. However, since the observations included in the sample are restricted to countries receiving aid (either program or project aid) at time  $t$ , the effect is likely to be weaker compared to the results if all observations were included. Adding average income to the model is important for the interpretation of other effects. E.g. GDP per capita and governance indicators are positively correlated and controlling for average income is therefore necessary to avoid a spurious effect.<sup>25</sup> Population is also added to account for differences in country size. While the larger countries in the sample (e.g. Brazil or Indonesia) may receive GBS from a large number of donors, smaller countries (e.g. Guyana or Solomon Islands) are less likely to receive GBS from all donors. Both population size and average income are in logs.

The variables included as regressors are either recipient-specific or dyadic. However, the donors differ with respect to the frequency of general budget support, indicating that policies on whether GBS is a preferred aid modality vary. For example, Korea has not reported any commitments for GBS in the period 1995-2009 while the Netherlands, Japan, Ireland, UK and France have a relatively high frequency of GBS.<sup>26</sup> Differences in the use of GBS may reflect donor characteristics such as the support for aid among the public in the donor countries. Dummy variables for the donor countries are therefore included to control for differences between donors in the use of GBS. Variation across time, for example shocks in the global

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<sup>24</sup> E.g., colonial history, geographic proximity, bilateral trade relationships and donors' strategic interests in the recipient countries.

<sup>25</sup> A correlation matrix is provided in Appendix A.

<sup>26</sup> See Table 2 for descriptive statistics on the frequency of GBS.

economy and the geographic region where the recipient countries are located are also controlled for using dummy variables.

## 4. Results

### Baseline model

The results from OLS and Probit regressions of the baseline model can be found in Table 3. In order to interpret the quantitative effects from the Probit estimations only the marginal effects evaluated at the means (MEMs) are presented. In columns one and four only the control variables and the main independent variables are included. In column two and five the dummy variable for IMF programs is added to control for balance of payment problems, and then variables controlling for the donor-recipient relationship are included in column three and six. All time-varying regressors with the exception of population are lagged to reduce problems with reverse causality. However, timing of the regressors and the outcome variable is not sufficient to establish a causal relationship. The results should therefore be interpreted with caution regarding the direction of causality.

[Table 3]

The results from the OLS regressions are similar to the estimated marginal effects from the Probit model, but the size of the marginal effects from the Probit model are consistently weaker than the conditional probabilities from the OLS regression.<sup>27</sup> In order to avoid overestimating the effects, the MEMs from the Probit model are referred to when discussing the results and only results using the Probit model are presented when testing the robustness of the results. The Probit model also performs better when predicting the probability of receiving GBS. Adding variables indicating balance of payment problems and proxies for the donor-recipient relationship greatly improves the fit of the model. Thus, the preferred model

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<sup>27</sup> The number of observations is lower when using the Probit model because the dummy variable for Korea predicts failure perfectly (as Korea has never reported a commitment of GBS in the period 1995-2009), and the observations for Korea are therefore dropped from the sample. Running the OLS without Korea, the results are almost identical to the OLS results for the full sample.



specification is the model in column 6, which is the baseline model for further analysis and robustness testing in the following subsections.

An increase in government effectiveness is related to a higher probability of GBS being larger than zero. Based on the results in column 6, an increase in the indicator for government effectiveness of one standard deviation (0.59) would increase the probability of GBS being committed by 2.1 percentage points. The predicted probability of receiving GBS is 7.1 percent, illustrating that an increase of 2.1 percentage points is a considerable effect. However, this only shows the marginal effects evaluated at the means. In order to explore marginal effects at different values of GE, the average marginal effects (AMEs) are graphed with 90 percent confidential intervals in Figure 2. The graphs are based on the model specification in column 6 with the AMEs on the probability that  $GBS > 0$  on the vertical axis.

[Figure 2]

The AMEs are higher for larger values on the GE indicator. While an increase of one standard deviation evaluated at a score on the GE indicator of -2.15 has a positive average marginal effect of 1.5 percentage points, an equivalent increase evaluated at a score of 1.1 is related to an average marginal effect of 5.4 percentage points. Thus, the donors are more selective among recipient countries with a higher level of government effectiveness. However, the estimated AME is also less precise for higher values. This is as expected as the majority of the observations in the sample are in the lower ranges.<sup>28</sup>

The proxy for commitment to development in the recipient countries is both positive and statistically significant at the ten percent level. An increase in public spending in the health sector of one standard deviation (4.1 percentage points) is related to an increase in the probability of receiving GBS of 0.8 percentage points. Thus, the donors do not seem to be as selective on the recipient governments' commitment to development. The AMEs evaluated at different values of spending in the health sector is graphed in Figure 3.

[Figure 3]

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<sup>28</sup> For government effectiveness only 18 percent of the 7258 observations in column 6 are higher than zero.

The variation in the marginal effects depending on the value of health expenditures is much smaller than for the GE. Still, the size of the AMEs is somewhat higher for larger values of spending in the health sector and the marginal effects are also less precise. Thus, the donors' seem to be selective on both the quality of governance and the commitment to development in the recipient countries. However, the marginal effect is considerably stronger for governance than commitment to development, and looking at the AMEs the donors' seem to be more selective among countries with a relatively high score on government effectiveness.

Countries with an IMF program are also more likely to receive GBS from the DAC donors. The estimated marginal effect evaluated at the means show that the probability of receiving GBS is 3.7 percentage points higher for countries with an IMF program. Thus, the results indicate that GBS is used by the DAC donors as financial support to developing countries with a balance of payments problem. In addition, countries accepting the terms for IMF programs signal a commitment to improving economic stability and growth which may also be part of the explanation as to why donors' seem to favor countries with an IMF program.<sup>29</sup> The marginal effect of aid dependency evaluated at the means is equal to zero in all three model specifications, and is thus not a significant determinant of the probability of receiving GBS.

Overall, the variables controlling for different aspects of the relationship between the donor and recipient countries are important in determining the probability of receiving GBS. Dreher et al. (2008) argues that program aid, including GBS, is more likely to be determined by political interests of the donors than other types of aid. This argument is based on the fact that GBS is preferred by the recipient countries, and therefore politically motivated donors should use program aid to achieve the wanted political influence. This could explain the importance of colonial history for the allocation of GBS, where former colonial powers may use GBS to maintain political influence, and similar voting patterns in the UNGA, but it does not hold for bilateral exports.

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<sup>29</sup> Using variables such as current account and cash surplus/deficit instead of the IMF dummy as a proxy for macroeconomic management supports the result that GBS is allocated to countries with a balance of payment problem. Other macroeconomic indicators, such as inflation and the degree of openness are not statistically significant. These results are not reported in the paper but are available upon request.

The binary variable indicating whether the donor and recipient has or have had a colonial relationship has by far the strongest effect on the probability of GBS being committed. Having a colonial link increases the probability that GBS is larger than zero by 22.4 percentage points. As expected, recipient countries with similar voting patterns in the UNGA are also more likely to receive GBS. The importance of colonial history and political alliances is in line with results in the empirical literature on aggregated bilateral aid.<sup>30</sup> Bilateral trade (proxied by the percentage of total exports from donor  $i$  going to recipient  $j$ ) does not have a statistically significant marginal effect on the probability of receiving GBS.

The probability that the DAC donors commit to disbursing GBS to a recipient country increases when average income is reduced or the population size increases. Thus, larger and poorer countries are more likely to receive GBS. As the sample is restricted to recipient countries with a positive commitment of project and/or program aid, the negative coefficient for average income is somewhat surprising. Thus, within the sample of countries eligible for ODA, an increase in average income is negatively related to the probability of receiving GBS. Average income is measured as the logarithm of GDP per capita, and an increase of one percent is related to a reduction in the probability of receiving GBS of 3.5 percentage points. The geographic location of the recipient countries does not seem to be very important. Only countries in Europe and Central Asia are less likely to receive GBS (the base group is East Asia and the Pacific).

The results from a Tobit model are presented in Table 4. As before, only observations where the total commitments of program and project aid are larger than zero are included in the model. The results show that the variables with a positive (negative) effect on the probability of GBS in Table 3 also have a positive (negative) effect on the share of GBS. Thus, the selectivity of donors when allocating GBS is not only on which countries that receive GBS, but also on the volume of GBS in percent of total project and program aid allocated.

[Table 4]

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<sup>30</sup> See for instance Alesina and Dollar (2000) and Dreher et al. (2008).

The average amount of GBS committed in the data sample is 27 million 2011 USD. There is great variation in the volume of GBS, with a standard deviation of 70. An increase of one standard deviation in the indicator for government effectiveness (0.59) is related to an increase of almost 12 million USD in GBS committed. The effect is weaker for the proxy variable for the degree of commitment to development. An increase in health expenditures in percent of total expenditures by 4.08 percentage points, which corresponds to one standard deviation, is related to an increase in GBS of almost 5 million USD. Compared to the effect of having a colonial relationship these effects are relatively modest. Still, the results provide support for the hypothesis that donors are selective on both the quality of governance and the recipient governments' commitment to development when allocating GBS.

The results presented in Table 3 and 4 show that the DAC donors are selective on the quality of governance, and there is a small positive effect of an increase in the recipients' commitment to development. This differs from the results in the literature on allocation of aggregate bilateral aid and thus underlines the importance of using disaggregate data when analyzing aid commitments. Even if the DAC donors do not tend to be selective on governance when allocating total bilateral aid, they do in fact take the effectiveness of government into account when allocating general budget support. In the following subsection, the robustness of the main independent variables, the quality of governance and commitment to development, is tested for the Probit model.

## **Robustness testing**

### The quality of governance

In Table 3, the GE indicator from the WGI is used to test how the DAC donors take the quality of governance into account when allocating GBS. This indicator is only one of several indicators that are available. In order to test if the results are robust to the choice of indicator, a number of alternative measures of the quality of governance are used to replace the GE and the MEMs are presented in Table 5. There may also be some aspects of governance in the recipient countries that are more important than others, and the possible heterogeneity in the

effect of governance is thus also discussed in this subsection.<sup>31</sup> The full baseline model specification in Table 3 is used, dropping government effectiveness and adding one of the alternative indicators at the time. The marginal effects for the other variables in the model remain approximately the same as in the baseline model and are therefore not reported.<sup>32</sup> All variables are coded so that an increase reflects an improvement in the quality of governance.

[Table 5]

With the exception of the democracy index Polity IV all the governance indicators have positive and statistically significant marginal effects, at least at the five percent level. Comparing the MEMs of an increase equal to one standard deviation in the governance indicators the estimates range from 0.5 to 1.9 percentage points. Thus, all the alternative indicators give a lower estimate of the marginal effects compared to the results in the baseline model. Thus, the estimated effect of quality of governance using the indicator for government effectiveness can be interpreted as an upper bound. However, the difference in MEMs depending on the indicator included can, at least to some extent, be explained by the fact that the indicators capture different aspects of the quality of governance. While the strongest marginal effects are found when including indicators for regulatory quality (1.9 pp.) and political risk (1.9 pp.) the marginal effects are considerably weaker for the different indicators for corruption in the public sector as well as the Polity IV.

Both the control of corruption (CC) from the WGI and the corruption perception index (CPI) from Transparency International have an estimated positive marginal effect of 0.8 percentage points from an increase equal to one standard deviation. An equivalent increase in the corruption index from the ICRG is related to an increase in the probability of receiving GBS of 0.5 percentage points. All three corruption measures are meant to capture corruption in the public sector. While the CPI and WGI measures are based on perceptions of corruption, the ICRG indicator is based on political information, and financial and economic data, which may explain the low correlation between COR and the other two indicators for corruption as well

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<sup>31</sup> To see how the different indicators correlate with each other, a correlation matrix for the different governance indicators can be found in Appendix A.

<sup>32</sup> The full results are available upon request.

as the weaker marginal effect.<sup>33</sup> One would expect donors to have an aversion to allocating GBS to countries with a low score on corruption in the public sector, but analyzing the allocation of GBS it seems as though other aspects of governance are more important.

Voice and accountability (VA) is an indicator reflecting the perceptions of freedom of the country's citizens<sup>34</sup> and their ability to influence the composition of the government. Naturally, this indicator is highly correlated with the Polity IV measuring the degree of democracy. Unlike the Polity IV, VA has a positive marginal effect on the probability of GBS which is statistically significant at the one percent level. An increase in the index of one standard deviation (0.72) is related to an increase in the probability of GBS of 1.4 percentage points.

The marginal effects of political risk (PR), absence of political violence/terrorism (PV) and the state fragility index (SFI) are all positive and statistically significant at the one percent level. An increase of one standard deviation is related to an increase in the probability of receiving GBS by 1.9, 1.7 and 1.6 percentage points, respectively. Rule of law (RL) also has a positive marginal effect on the probability of receiving GBS of 1.3 percentage points. Overall, the results confirm the positive effect of the quality of governance on the probability of receiving GBS. However, the effect is considerably weaker when looking at the effect of corruption and the effect of democracy is not statistically significant.

### Commitment to development

Here, the results when using alternative proxy variables for the recipient governments' commitment to development are presented. Alternative proxy variables for the commitment to development include public spending in other social sectors and outcome variables. In Table 6, public spending on education in percent of total government expenditure and child mortality measured as the mortality rate per 1000 children younger than five years old are used instead of spending in the health sector. In addition, a binary variable for whether or not

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<sup>33</sup> The CPI measures the perceived levels of public sector corruption and is based on information from independent organizations. The control of corruption index is also a measure of perceived corruption, where corruption is the exercise of public power for private gain.

<sup>34</sup> Freedom of expression, freedom of association and a free media.

the recipient country has an Interim Poverty Reduction Strategy Paper (IPRSP) or a Poverty Reduction Strategy Paper (PRSP) is used to indicate the commitment to reduce poverty, following Clist et al. (2012).<sup>35</sup>

[Table 6]

As discussed previously, proxy variables such as child mortality will depend on the efforts made to educate health personnel, invest in health institutions, and so on, decades ago, and it is also likely to depend on other factors, such as whether a country has a problem with HIV or malaria. Thus, this type of outcome variables may be a poor proxy for the governments' current commitment to development and the lack of any significant effect on the probability of receiving GBS is therefore not very surprising.

The MEMs for the commitment to development is not significant when using spending in the education sector. The number of observations is about half of the sample size for the baseline model specification. However, the positive result for health expenditures is robust to reducing the sample size equivalently.<sup>36</sup> The correlation between health and education expenditures is only 0.07 indicating that spending in one social sector is not necessarily closely related to public spending in other social sectors. It is difficult to see why donors' would prefer countries with relatively higher public spending in the health sector but not take spending in education into account. However, the positive effect of health expenditures may be driven by a focus on health-related issues (e.g., HIV, and mother and child health). This would be consistent with the results in Thiele et al. (2007), where they find that the MDGs have not shaped the allocation of aid with the exception of the fight against HIV/AIDS using data disaggregated by sectors.

The variable indicating whether the country has a poverty reduction strategy plan is a binary variable, and is therefore evaluated for a discrete change from zero to one for the Probit

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<sup>35</sup> The main objective of an (I)PRSP is long-term poverty reduction through national strategies with the (financial) support of development partners. The strategy papers are prepared by the governments, but the process also involves multilateral organizations such as the IMF and World Bank (IMF, 2012a).

<sup>36</sup> The change in the effect of having an IMF program and the dummy variable for Latin American countries are due to the reduced sample size.

model, and not at the mean. The results in column 3 show that the probability of receiving GBS is 3 percentage points higher if the country has an IPRSP or PRSP. Thus, the effect is much stronger than when using health expenditures as a proxy. One possible explanation for this is that an (I)PRSP is prepared by the recipient government, but the process also involves other parties, including the World Bank and the IMF. It is not just a strategy paper for social policies in order to improve growth and reducing poverty but also includes macroeconomic policies (IMF, 2012a). In that way, the preparation of an (I)PRSP does not only signal that the recipient country is focusing on poverty reduction, but also that it cooperates with the World Bank and the IMF to improve economic development in the country. The (I)PRSP dummy both then indicate a commitment by the recipient governments to improve macroeconomic policies. This effect can be compared to the signaling effect of having an IMF program, even though the latter might have a larger component of pressure from others, such as the IMF and foreign creditors. Comparing the results for the IMF dummy in Table 6 with Table 3, the marginal effect of having an IMF program is reduced from 3.7 to 2.6 percentage points. Thus, it could reflect that the (I)PRSP and IMF dummies both capture a commitment to policy reforms by the recipient governments.

### **Colonizers vs. non-colonizers**

The results for the baseline model in Table 3 show that even though the DAC donors are selective on the quality of governance and, at least to some extent, the commitment to development in the recipient countries, colonial history still has the strongest predicative power on the probability of receiving GBS. It is well known from the aid allocation literature that former colonizers and France in particular favor their former colonies (Berthélemy and Tichit, 2004). All the top ten recipients of GBS, listed in Table 2, are former colonies. Thus, it would be interesting to know whether the selectivity in allocation of GBS differs between donors with former colonies among the recipient countries and other donors.

In Table 7, the sample is divided based on whether or not the donor has had at least one colony among the recipient countries in the sample. As expected, former colonial powers are



less selective when allocating GBS.<sup>37</sup> The quantitative effect of government effectiveness is reduced from a marginal effect evaluated at the mean of 2.1 percentage points for the full sample to 1.8 percentage points when only including donors with former colonies among the recipients. For the subsample only including donors without a colonial link to any of the recipient countries in the sample, the marginal effect is 2.4 percentage points. Health expenditures as a proxy for commitment to development is positive in both columns, but only statistically significant at the ten percent level in column 2.

[Table 7]

In addition to favoring their former colonies, donors with a colonial history with one or more of the recipient countries in the sample also favor countries with similar voting patterns in the UNGA and the positive marginal effect of having an IMF program is stronger while bilateral exports is not a significant determinant. Thus, political alliances seem to be more important for this group of donor countries as well as alleviation of balance of payment problems.

Surprisingly, the effect of bilateral trade is negative and statically significant at the five percent level in column 2. An increase in bilateral exports equal to one standard deviation (0.66) is related to a reduction in the probability of receiving GBS by 4.2 percentage points. Thus, countries that hold a larger share in the donors' exports, given that the donor is not a former colonizer, are less likely to receive GBS.

### **Within variation**

For the recipient governments, the more relevant question than just looking at the characteristics of countries receiving GBS is how variation within the countries are related to changes in the dependent variable. Thus, the more relevant question to address would be whether or not recipient governments, by implementing reforms and improving policies, can increase the probability of receiving GBS. In order to address this question the model is estimated using a Fixed Effects Logit and the results are provided in Table 8. The main

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<sup>37</sup> Running the model for the full sample with interaction effects confirm the higher emphasis on GE of donors without colonial ties to any of the recipient countries while there is no support for the effect of health expenditures being contingent on colonial links.

problem with this approach is that only observations where the dependent variable changes over time (donor-recipient pairs where there are both observations where no GBS is committed and where the donor has committed to disbursing GBS) are included. Thus, the total number of observations is reduced substantially which leads to less precise estimates. In addition, the within variation in government effectiveness is low as changes in governance rarely change much in the short or medium run. Thus, selection on governance is likely to be across countries and not within countries.

[Table 8]

The estimated coefficients in Table 8 are odds-ratios and can be interpreted as semi-elasticities. Government effectiveness still has a positive coefficient, but the p-value is now 0.3. Spending in the health sector is still statistically significant, but the sign of the effect is now negative. A one-unit increase in public spending in the health sector decreases the odds ratio by 0.07.<sup>38</sup> An improvement in observable characteristics indicating a stronger commitment to development has a negative effect on the relative probability of receiving GBS over time. The direction of the effect also changes for average income, where an increase reduces the probability of receiving GBS.

Using a Fixed Effects Logit model, there is no support for DAC donor being selective with respect to governance and commitment to development. Thus, the selectivity seems to be a result of variation across countries and not within. This is relevant, as it indicates that improvements over time are not rewarded with an increase in the probability of receiving GBS. However, the variation within countries for the quality of governance is very low and this may also explain the lack of statistical significance when controlling for fixed effects.

### **GBS and program aid**

The use of disaggregated data to focus on the allocation of GBS implicitly builds on an assumption that the allocation of GBS is different than for other types of aid. As has been discussed in the literature review, there are several arguments as to why the allocation pattern

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<sup>38</sup> Here, the odds-ratio is the probability that the commitments of GBS are larger than zero relative to the probability that the commitments of GBS are zero.

of GBS should be different from the allocation of project aid. However, other types of program aid (e.g., debt relief and food aid) are not included in the dependent variable either. One reason is that debt relief and food aid do not improve recipient country ownership as it does not (necessarily) involve a delegation of the responsibility for the distribution and use of aid funds to the recipient governments. Thus, one would expect donors to be less selective on the quality of governance and the level of commitment to development. Estimating the baseline model with a dummy variable equal to one if the sum of commitments of program aid is positive, the empirical results confirm that the selectivity in allocation of GBS does not hold when looking at total program aid.<sup>39</sup> This underlines the importance of using disaggregated aid data in these types of analyses as different types of aid are allocated based on other criteria.

While an improvement in the quality of governance and the commitment to development is related to an increase in the probability of receiving GBS, it is not significant when analyzing the probability of receiving program aid. This could be driven by the fact that for example debt relief is an alternative to GBS in poorly governed countries, as that too can be a way to alleviate balance of payment problems. At the same time, the marginal effect of colonial history and aid share is stronger for program aid while similar voting patterns in the UNGA is not statistically significant at the ten percent level for total program aid.

[Table 9]

## 5. Conclusion

In the Paris Agenda, the DAC donors have committed to improve recipient ownership as a part of a strategy to increase the efficiency of aid. One way to follow up on this commitment is to increase the use of general budget support. During the period 1995-2009, there has been a slight negative trend in both the frequency of GBS and in the share of GBS (see Figure 1). Thus, it may seem as though the emphasis on recipient ownership is rhetorical and not followed by changes in the aid commitments made by the DAC donors. However, the low use of GBS could also be a result of selectivity among the donors. The donors delegate the

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<sup>39</sup> The full results referred to here are reported in Appendix B.

responsibility to the recipient governments when they allocate GBS and it therefore involves a trade-off between the loss of control and possible benefits (e.g., reduced transaction costs) and a higher degree of selectivity when allocating GBS than for other types of aid would therefore be expected.

Using data on commitments of GBS, the results from a Probit model show that the DAC donors are selective on the quality of governance, and the result is robust to changes in the model specification. However, the size of the effect depends on the choice of governance indicators. While government effectiveness has a relatively strong effect on the probability of receiving GBS, the results indicate that aspects of governance such as the level of corruption in the public sector are not equally important for the allocation of GBS. There is also some support that the DAC donors target countries with a stronger commitment to development. Both countries with higher public expenditures in the health sector and with an (Interim) Poverty Reduction Strategy Paper are more likely to receive GBS, but the result does not hold for public expenditures in education or child mortality. Thus, the DAC donors do, at least to some extent, target countries that are likely to use the funding from GBS more efficiently. Countries with balance of payment problems (proxied either by having an IMF program or macroeconomic indicators such as the current account or cash surplus/deficit) are also more likely to be supported financially with GBS.

Even though the quality of governance and commitment to development are significant determinants of the probability of receiving GBS for the full sample of DAC donors, the degree of selectivity is considerably weaker and political alliances has a significant and positive effect for the group of donors with former colonies among the recipient countries. In addition, a colonial link between a donor and recipient country has the strongest predicative power for the probability of receiving GBS and also has a strong quantitative effect on the volume of GBS. Thus, while donors' without colonial links to any of the recipient countries on average put a strong emphasis on the quality of governance, former colonizers strongly favor their former colonies and also countries with similar voting patterns in the UNGA. As the allocation of GBS to a large extent is determined by colonial history there is only limited support for stating that the low use of GBS is due to a high degree of selectivity among the donors. For former colonial powers the historical ties and political influence with former colonies seem to be more important than the commitments made in the Paris Agenda. Still,

compared to the results for aggregate bilateral aid in the literature on aid allocation and when looking at program aid, the results must be considered as encouraging.

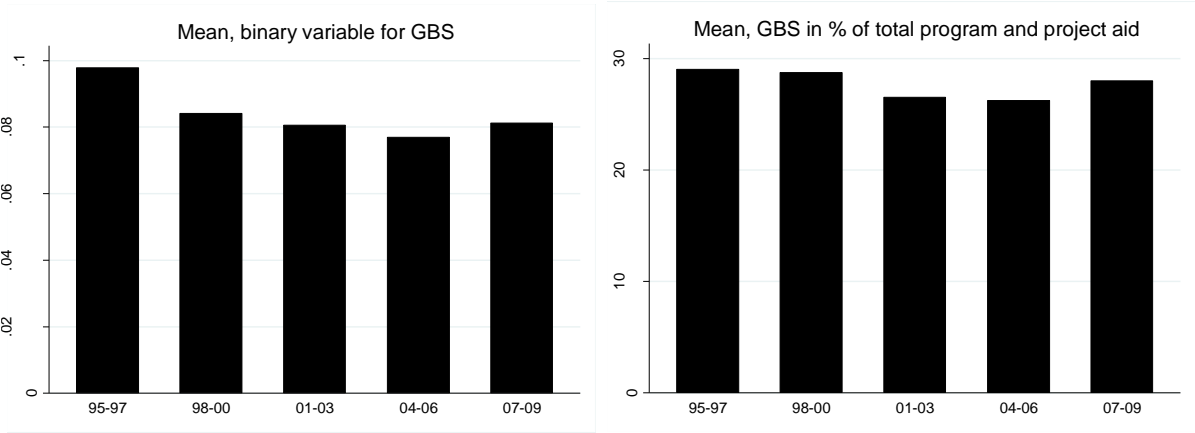
Comparing the degree of selectivity in the allocation of GBS and total program aid also underlines the importance of using disaggregated data when analyzing the allocation of aid. While the DAC donors on average are selective when allocating GBS, the allocation of program aid is not dependent on the quality of governance or commitment to development in the recipient countries. This also indicates that the donor countries are more selective when allocating direct financial funds and thus delegating the responsibility for the distribution and use to the recipient governments.

For the donor countries and especially the former colonial powers, the emphasis on the quality of governance and the degree of commitment to development should be more important when GBS is allocated across recipient countries. The results when using the level of corruption in the public sector in particular demonstrate that there is room for improvement. For the recipients it is of interest to know how one may attract GBS rather than other types of aid, and the results presented here give some pointers as to what the donors' are affected by. In addition to better governance, public expenditures in health are rewarded while spending on education is not. The degree of democracy is the only governance indicator not statistically significant at conventional levels, indicating that democratic elections and processes in the recipient countries are less important than for example political stability. Committing to IMF programs and fighting poverty through preparing an (I)PRSP also signals a dedication to improving policies in order to promote economic development.

The term “donor darlings” has been used for the countries receiving the majority of aid flows. The possibility of herd behavior among the donors, where herd behavior or “herding” is the tendency to converge to similar behavior as others (Bikhchandani et al., 2011), is not pursued here. The joint targeting of some countries, such as Mozambique and Tanzania) may be a result of herd behavior among donors. An interesting extension to the analysis would thus be to test whether donors tend to disregard private information, and simply follow each other when allocating GBS.

Figures

Figure 1 – Development in GBS over time



Source: OECD (2012)

Figure 2 – AMEs for government effectiveness

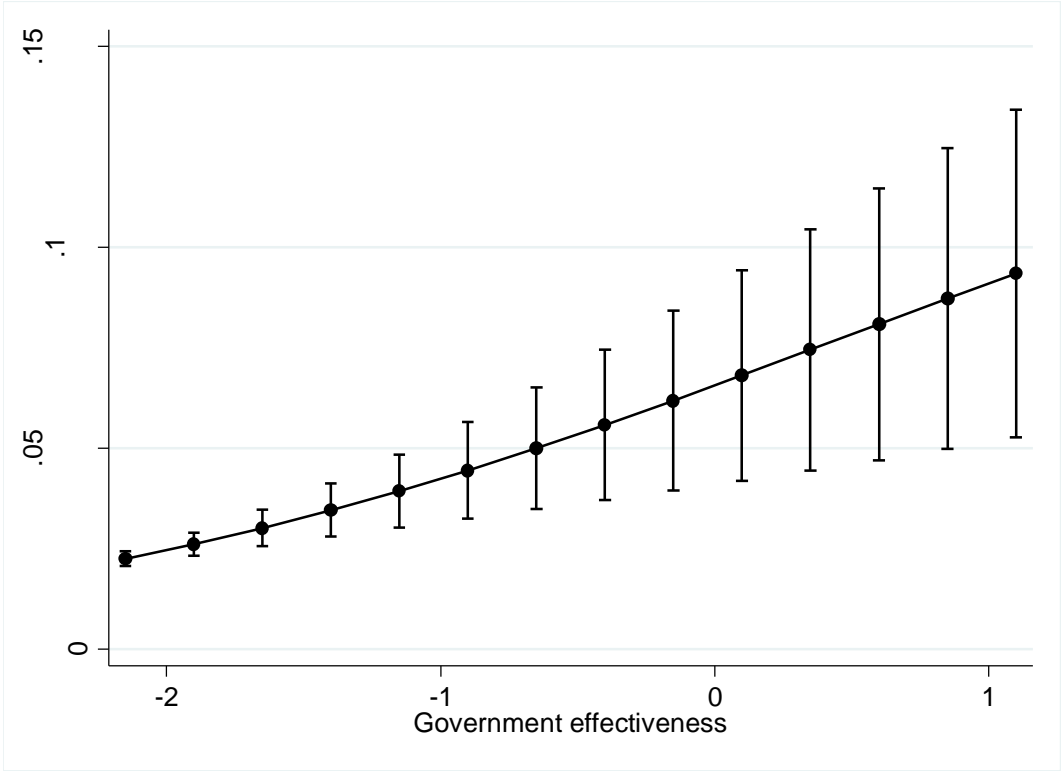
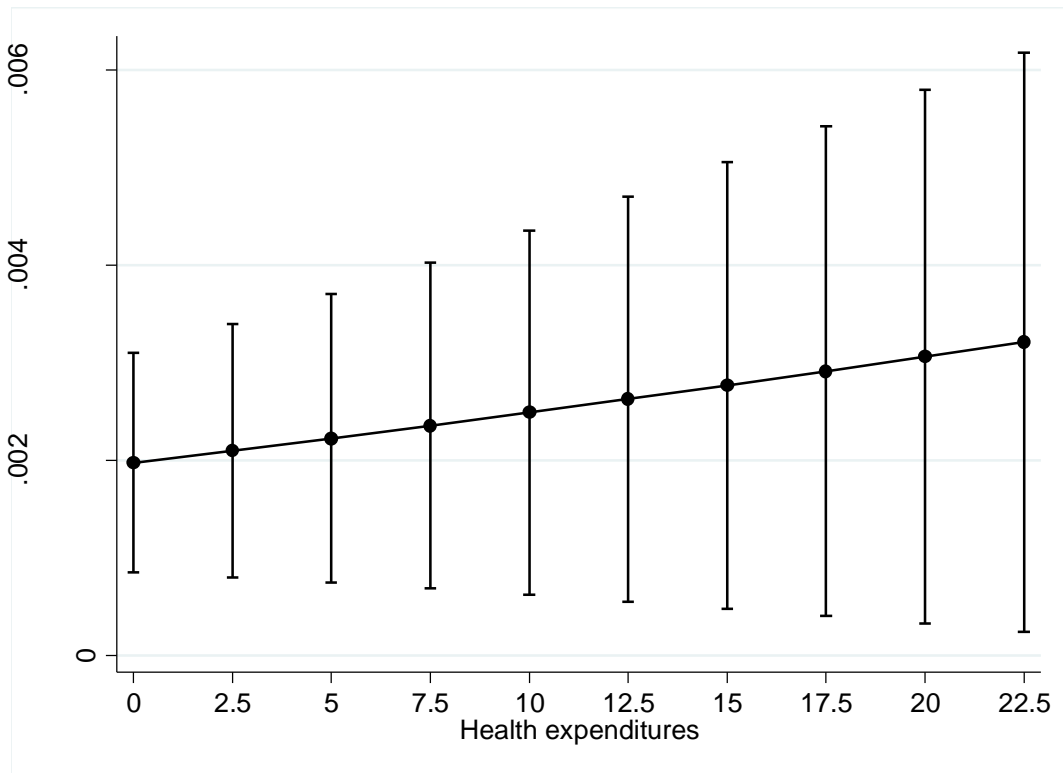


Figure 3 – AMEs for health expenditures



## Tables

Table 1 – Classification of aid modalities

Program aid	Commodity aid and general program assistance	General budget support Dev. food aid Other commodity assistance
	Actions related to debt	Actions related to debt
Project aid	Project aid	Social infrastructure and services
		Economic infrastructure and services
		Production sectors
		Multi-sector
Other	Other	Administrative costs of donors
		Humanitarian aid
		Refugees in donor countries
		Unspecified

Table 2 – The ten most frequent donors and recipients of general budget support

Donor	Frequency	Recipient	Frequency
Japan	0.23	Mozambique	0.52
France	0.17	Tanzania	0.42
Netherlands	0.16	Vietnam	0.32
Ireland	0.16	Ghana	0.30
United Kingdom	0.16	Burkina Faso	0.29
Sweden	0.10	Uganda	0.27
Canada	0.09	Mali	0.24
Italy	0.08	Nicaragua	0.23
Belgium	0.08	Benin	0.20
Denmark	0.08	Zambia	0.19

Source: OECD (2012)



Table 3 – Baseline model

	OLS			Probit (MEMs)		
	(1)	(2)	(3)	(4)	(5)	(6)
GE	0.045*** (0.008)	0.040*** (0.008)	0.042*** (0.008)	0.040*** (0.007)	0.033*** (0.007)	0.036*** (0.007)
Health exp.	0.005*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.003*** (0.001)	0.002** (0.001)	0.002** (0.001)
Aid dependency	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
IMF (b)		0.052*** (0.007)	0.051*** (0.007)		0.039*** (0.006)	0.037*** (0.005)
Bilateral exports			-0.008 (0.005)			-0.005 (0.006)
UNGA			0.056* (0.031)			0.060** (0.025)
Colonial link (b)			0.248*** (0.036)			0.224*** (0.041)
Population	0.012*** (0.003)	0.012*** (0.003)	0.014*** (0.003)	0.007*** (0.002)	0.008*** (0.002)	0.010*** (0.002)
Average income	-0.049*** (0.006)	-0.039*** (0.006)	-0.043*** (0.006)	-0.044*** (0.005)	-0.032*** (0.005)	-0.035*** (0.005)
SSA (b)	0.036** (0.016)	0.033** (0.016)	0.031* (0.016)	0.011 (0.011)	0.009 (0.011)	0.006 (0.010)
LAC (b)	0.007 (0.015)	-0.009 (0.015)	-0.010 (0.016)	0.011 (0.015)	-0.003 (0.012)	-0.001 (0.012)
ECA (b)	-0.018 (0.015)	-0.028* (0.015)	-0.030** (0.015)	-0.018* (0.010)	-0.020** (0.009)	-0.023*** (0.008)
MENA (b)	0.018 (0.017)	0.021 (0.017)	0.028 (0.018)	0.011 (0.018)	0.013 (0.017)	0.019 (0.020)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Donor dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	7611	7611	7452	7413	7413	7258
R2/Pseudo R2	0.10	0.11	0.14	0.18	0.20	0.23

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. Clustered standard errors in parentheses. Coefficients for time and donor dummies not reported. (b) dy/dx is the discrete change from the base level (from 0 to 1) in the Probit models. All time-varying regressors except population are lagged one period.

Table 4 – Tobit results

	(1)	(2)	(3)
GE	21.101*** (3.807)	18.063*** (4.037)	20.309*** (3.987)
Health exp.	1.608*** (0.474)	1.361*** (0.457)	1.208*** (0.463)
Aid dependency	0.038 (0.025)	0.047* (0.025)	0.043* (0.025)
IMF		24.847*** (3.970)	24.452*** (4.002)
Bilateral exports			-2.123 (3.476)
UNGA			38.314** (15.474)
Colonial link			49.912*** (5.862)
Population	3.097*** (1.111)	3.688*** (1.158)	4.655*** (1.218)
Average income	-23.046*** (2.787)	-17.213*** (2.757)	-20.043*** (2.921)
SSA	7.153 (5.627)	6.188 (5.503)	4.361 (5.725)
LAC	2.552 (6.974)	-4.963 (7.052)	-3.908 (7.241)
ECA	-6.797 (6.363)	-9.142 (6.095)	-13.023** (6.206)
MENA	8.370 (8.202)	9.205 (8.076)	13.467 (8.938)
Donor dummies	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes
Sigma constant	53.527*** (2.436)	52.684*** (2.378)	51.716*** (2.404)
N	7611	7611	7452
Pseudo R2	0.08	0.09	0.10

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. The model is estimated using a Tobit model. The dependent variable is GBS in percent of the sum of program and project aid. Clustered standard errors are reported in parentheses. All time-varying regressors except population are lagged one period.

Table 5 – The quality of governance

Indicator	VA	PV	RQ	RL	CC	CPI	COR	PR	SFI	Polity IV
MEM	0.020***	0.021***	0.029***	0.022***	0.014**	0.007*	0.006*	0.002***	0.003***	0.001
SE	(0.005)	(0.004)	(0.006)	(0.005)	(0.006)	(0.004)	(0.004)	(0.000)	(0.001)	(0.001)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7263	7263	7258	7258	7258	4937	5671	5671	7263	7209

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . The model is estimated using a Probit model with clustered standard errors. Only MEMs for governance indicators are reported. All time-varying regressors except population are lagged one period.

Table 6 – Commitment to development

	(1)	(2)	(3)
GE	0.040*** (0.007)	0.030*** (0.008)	0.033*** (0.007)
Child mortality	0.000 (0.000)		
Education expenditures		-0.001 (0.001)	
IPRSP/PRSP			0.030*** (0.007)
Aid dependency	0.000 (0.000)	0.000 (0.000)	0.000** (0.000)
IMF (b)	0.037*** (0.006)	0.022*** (0.007)	0.026*** (0.006)
Bilateral exports	-0.004 (0.006)	0.006 (0.005)	-0.004 (0.006)
UNGA	0.072*** (0.025)	0.046 (0.031)	0.073*** (0.025)
Colonial link (b)	0.221*** (0.041)	0.236*** (0.052)	0.224*** (0.041)
Population	0.009*** (0.002)	0.006*** (0.002)	0.011*** (0.002)
Average income	-0.037*** (0.005)	-0.038*** (0.006)	-0.029*** (0.005)
SSA (b)	0.003 (0.012)	0.018 (0.015)	0.004 (0.010)
LAC (b)	0.008 (0.013)	0.052** (0.025)	0.006 (0.012)
ECA (b)	-0.024*** (0.007)	-0.012 (0.011)	-0.025*** (0.007)
MENA (b)	0.020 (0.021)	0.050 (0.036)	0.021 (0.021)
Donor dummies	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes
N	7280	3641	7280
Pseudo R2	0.23	0.25	0.24

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. The model is estimated using a Probit model with clustered standard errors in parentheses. All time-varying regressors except population are lagged one period.

Table 7 – Former colonizers vs. donors without former colonies in the sample

Subsample	Donors with colonial links	Donors without colonial links
	(1)	(2)
GE	0.030*** (0.009)	0.041*** (0.008)
Health exp.	0.001 (0.001)	0.002** (0.001)
Aid dependency	0.000 (0.000)	0.000 (0.000)
IMF (b)	0.041*** (0.007)	0.023*** (0.006)
Bilateral exports	-0.000 (0.006)	-0.064** (0.027)
UNGA	0.069** (0.032)	0.027 (0.032)
Colonial link (b)	0.223*** (0.040)	
Population	0.007** (0.003)	0.015*** (0.003)
Average income	-0.037*** (0.006)	-0.026*** (0.007)
SSA (b)	0.001 (0.014)	0.009 (0.011)
LAC (b)	-0.011 (0.015)	0.016 (0.018)
ECA (b)	-0.023** (0.011)	-0.019*** (0.007)
MENA (b)	0.027 (0.028)	-0.010 (0.013)
Donor dummies	Yes	Yes
Time dummies	Yes	Yes
N	4616	2642
Pseudo R2	0.24	0.25

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. The model is estimated using a Probit model with clustered standard errors in parentheses. MEMs for time and donor dummies not reported. (b) dy/dx is the discrete change from the base level (from 0 to 1) in the Probit models. All time-varying regressors except population are lagged one period.

Table 8 – Fixed effects Logit

	(1)	(2)	(3)
GE	0.129 (0.399)	0.149 (0.402)	0.277 (0.410)
Health exp.	-0.074** (0.037)	-0.074** (0.037)	-0.075** (0.037)
Aid dependency	0.007*** (0.002)	0.007*** (0.002)	0.006*** (0.002)
IMF (b)		-0.129 (0.256)	-0.009 (0.267)
Bilateral exports			-0.620 (0.899)
UNGA			-0.512 (1.080)
Population	10.170*** (2.262)	10.254*** (2.268)	9.666*** (2.365)
Average income	3.315*** (0.884)	3.312*** (0.883)	3.431*** (0.918)
N	1140	1140	1122

\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . The model is estimated using FE Logit. The odds-ratios are reported with clustered standard errors. All time-varying regressors except population are lagged one period.

Table 9 – GBS vs. program aid

Dependent variable	GBS			Program aid		
	(1)	(2)	(3)	(4)	(5)	(6)
GE	0.040*** (0.007)	0.033*** (0.007)	0.036*** (0.007)	0.024 (0.018)	0.003 (0.018)	0.008 (0.019)
Health exp.	0.003*** (0.001)	0.002** (0.001)	0.002** (0.001)	0.003 (0.002)	0.002 (0.002)	0.000 (0.002)
Aid dependency	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
IMF (b)		0.039*** (0.006)	0.037*** (0.005)		0.122*** (0.014)	0.128*** (0.014)
Bilateral exports			-0.005 (0.006)			-0.010 (0.015)
UNGA			0.060** (0.025)			0.079 (0.064)
Colonial link (b)			0.224*** (0.041)			0.351*** (0.049)
Population	0.007*** (0.002)	0.008*** (0.002)	0.010*** (0.002)	0.031*** (0.005)	0.034*** (0.005)	0.037*** (0.006)
Average income	-0.044*** (0.005)	-0.032*** (0.005)	-0.035*** (0.005)	-0.167*** (0.013)	-0.139*** (0.013)	-0.149*** (0.014)
SSA (b)	0.011 (0.011)	0.009 (0.011)	0.006 (0.010)	0.154*** (0.029)	0.151*** (0.029)	0.149*** (0.030)
LAC (b)	0.011 (0.015)	-0.003 (0.012)	-0.001 (0.012)	0.176*** (0.039)	0.130*** (0.039)	0.136*** (0.040)
ECA (b)	-0.018* (0.010)	-0.020** (0.009)	-0.023*** (0.008)	-0.052* (0.027)	-0.067** (0.026)	-0.082*** (0.027)
MENA (b)	0.011 (0.018)	0.013 (0.017)	0.019 (0.020)	0.069 (0.042)	0.076* (0.043)	0.094* (0.048)
Donor dummies	Yes	Yes	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	7413	7413	7258	7611	7611	7452
Pseudo R2	0.18	0.20	0.23	0.27	0.28	0.30

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. Clustered standard errors in parentheses. Coefficients for time and donor dummies not reported. (b) dy/dx is the discrete change from the base level (from 0 to 1) in the Probit models. All time-varying regressors except population are lagged one period.

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## Appendix A – Data description and sources

### A.1. List of recipient countries

Albania	<i>Cuba</i>	Laos	Rwanda
Algeria	Djibouti	Lebanon	<i>Saudi Arabia</i>
Angola	<i>Dominican Republic</i>	Lesotho	Senegal
Argentina	Ecuador	Liberia	<b>Serbia</b>
Armenia	Egypt	<i>Libya</i>	Sierra Leone
<i>Azerbaijan</i>	El Salvador	Macedonia, FYR	<i>Slovenia</i>
<i>Bahrain</i>	<i>Equatorial Guinea</i>	Madagascar	Solomon Islands
Bangladesh	Eritrea	Malawi	South Africa
<i>Belarus</i>	Ethiopia	<i>Malaysia</i>	Sri Lanka
Benin	<i>Fiji</i>	Mali	Sudan
Bhutan	Gabon	Mauritania	Swaziland
Bolivia	Gambia	Mauritius	<i>Syria</i>
<i>Botswana</i>	Georgia	<i>Mexico</i>	Tajikistan
Brazil	Ghana	Moldova	Tanzania
Burkina Faso	Guatemala	Mongolia	Thailand
Burundi	Guinea	<b>Montenegro</b>	Togo
Cambodia	Guinea-Bissau	Morocco	Tunisia
Cameroon	Guyana	Mozambique	Turkey
Central African Rep.	Haiti	Namibia	<i>Turkmenistan</i>
Chad	Honduras	Nepal	Uganda
Chile	India	Nicaragua	<i>Ukraine</i>
China	Indonesia	Niger	Uruguay
Colombia	<i>Iran</i>	<i>Oman</i>	Uzbekistan
Comoros	Jamaica	Pakistan	<i>Venezuela</i>
Congo, Dem. Rep.	Jordan	Panama	Vietnam
Congo, Rep.	Kazakhstan	Papua New Guinea	<b>Yemen</b>
<i>Costa Rica</i>	Kenya	Paraguay	Zambia
Cote d'Ivoire	<i>Korea</i>	Peru	Zimbabwe
<i>Croatia</i>	Kyrgyz Republic	Philippines	

**Bold:** Drops out of the sample when using the preferred model specification.

*Italic:* Never received GBS in the period 1995-2009.

## A.2. Variables included in the baseline model

Group	Variable <sup>42</sup>	Description	Source
Dependent variable	GBS	A binary variable equal to 1 when $GBS > 0$ , zero otherwise. Missing if total commitments are equal to zero. Dyadic variable.	OECD (2012)
Quality of governance	GE	Government effectiveness, ranging from -2.5 (low government effectiveness) to 2.5, recipient country.	World Bank (2012a)
Commitment to development	Health expenditures	Public spending on health (% of total expenditures), recipient country.	World Bank (2012b)
Aid dependency	Aid dependency	Net total ODA in % of gross capital formation or GDP, recipient country.	World Bank (2012b)
Macroeconomic management	IMF	A binary variable equal to one for IMF lending arrangements (Extended Credit Facility, Standby Arrangement or Extended Fund Facility), recipient country.	IMF (2012b)
Donor-recipient relationship	Bilateral exports	Export from donor to recipient, % of exports from donor to the world. Dyadic variable.	OECD (2010)
	UNGA	Index for similarity in voting in the UN General Assembly ranging from -1 (least similar) to 1 (most similar), dyadic data.	Gartzke (2010)
	Colonial link	A dummy variable equal to 1 if the donor and recipient have ever had a colonial relationship. Dyadic variable.	CEPII (2010)
Additional controls	Population	The logarithm of total population, recipient country.	World Bank (2012b)
	Average income	The logarithm of GDP per capita, constant 2000 USD, recipient country.	World Bank (2012b)
	Regional dummies	Binary variables for countries located in Sub-Saharan Africa (SSA), South Asia (SA), East Asia & Pacific (EAP), Europe & Central Asia (ECA), Latin America & Caribbean (LAC), and Middle East & North Africa (MENA), recipient country.	World Bank (2012b)

<sup>42</sup> All variables from the World Bank, are accessed using the World Bank Open Data in Stata (Azevedo, 2011).

### A.3. Alternative variables for governance and commitment to development<sup>43</sup>

Group	Variable	Description	Source
Quality of governance	Voice and accountability (VA)	Index, -2.5 – 2.5.	World Bank (2012a)
	Political stability and absence of violence (PV)	Index, -2.5 – 2.5.	World Bank (2012a)
	Regulatory quality (RQ)	Index, -2.5 – 2.5.	World Bank (2012a)
	Rule of law (RL)	Index, -2.5 – 2.5.	World Bank (2012a)
	Control of corruption (CC)	Index, -2.5 – 2.5.	World Bank (2012a)
	Corruption Perception Index (CPI)	Index, 0 – 10.	Transparency International (2011)
	Political risk (PR)	Index, 0 – 100.	PRS Group (2011)
	Corruption (COR)	Index, 0 – 5.	PRS Group (2011)
	State Fragility Index (SFI)	Index, 0 – 25.	Center for Systemic Peace (2011b)
	Polity IV	Index, -10 – 10.	Center for Systemic Peace (2011b)
Commitment to development	IPRSP/PRSP	Binary variable equal to one for either an IPRSP or a PRSP.	IMF (2012a)
	Education spending	Public spending on education, total (% of government expenditure).	World Bank (2012b)
	Mortality	Mortality rate, under 5 years (per 1,000).	World Bank (2012b)

<sup>43</sup> All variables from the World Bank, are accessed using the World Bank Open Data in Stata (Azevedo, 2011).

#### A.4. Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
GBS	775	27.04	70.13	0.00	1028.55
GBS dummy	9303	0.08	0.28	0	1
GE	9292	-0.49	0.59	-2.15	1.28
Health exp.	9254	9.90	4.08	0	27.11
Aid dependency	9072	40.43	67.54	-0.48	609.59
IMF	9303	0.60	0.49	0	1
Bilateral exports	9171	0.15	0.66	0.00	22.53
UNGA	9135	0.41	0.27	-0.80	0.99
Colonial link	9182	0.05	0.22	0	1
Population	9303	16.27	1.50	12.81	21.00
Average income	9298	6.78	1.14	4.37	9.59
SSA	9303	0.39	0.49	0	1
LAC	9303	0.20	0.40	0	1
ECA	9303	0.20	0.40	0	1
MENA	9303	0.10	0.30	0	1
EAP	9303	0.11	0.32	0	1
VA	9303	-0.52	0.72	-2.13	1.32
PV	9299	-0.55	0.80	-2.83	1.23
RQ	9296	-0.45	0.65	-2.26	1.64
RL	9292	-0.59	0.61	-2.21	1.26
CC	9296	-0.52	0.57	-2.06	1.45
CPI	7038	3.08	1.09	0.97	7.47
COR	7294	2.32	0.83	0	5
PR	7294	61.57	9.26	28.36	80.71
SFI	9254	12.57	5.24	1	25
Polity IV	9207	2.15	5.90	-10	10
Mortality	9303	76.21	56.78	5	262.7
Education spending	5011	16.66	5.01	3.20	32.78
IPRSP/PRSP	9303	0.54	0.50	0	1

### A.5. Correlation matrix

	GE	Health exp.	Aid dep.	IMF	Bil. exp.	UNGA	Col. link	Population	Avg. income	SSA	LAC	ECA	MENA
Health exp.	0.21												
Aid dep.	-0.42	0.00											
IMF	-0.21	0.10	0.23										
Bilateral exports	0.18	-0.01	-0.12	-0.12									
UNGA	0.12	0.11	-0.08	0.11	-0.04								
Colonial link	0.00	0.00	0.02	-0.01	0.04	-0.05							
Population	0.11	-0.17	-0.21	-0.05	0.31	-0.07	-0.03						
Avg. income	0.62	0.21	-0.59	-0.36	0.16	0.14	0.00	-0.03					
SSA	-0.30	-0.12	0.43	0.15	-0.14	-0.16	0.04	-0.19	-0.53				
LAC	0.17	0.43	-0.21	0.02	0.00	0.07	0.01	0.00	0.45	-0.41			
ECA	0.01	-0.13	-0.15	0.11	0.00	0.24	-0.07	0.04	-0.02	-0.39	-0.25		
MENA	0.10	-0.10	-0.14	-0.27	0.02	-0.10	0.00	0.02	0.26	-0.25	-0.17	-0.16	
EAP	0.14	-0.11	-0.08	-0.14	0.20	-0.04	0.00	0.22	0.02	-0.29	-0.19	-0.18	-0.12

N = 8841

A.6. Correlation matrix for governance indicators

	GE	VA	PV	RQ	RL	CC	CPI	COR	PR	SFI
VA	0.60									
PV	0.50	0.43								
RQ	0.85	0.69	0.47							
RL	0.86	0.58	0.61	0.80						
CC	0.85	0.60	0.60	0.76	0.86					
CPI	0.82	0.52	0.56	0.73	0.81	0.92				
COR	0.49	0.44	0.37	0.52	0.53	0.61	0.54			
PR	0.73	0.54	0.79	0.72	0.73	0.71	0.68	0.51		
SFI	0.67	0.51	0.62	0.62	0.59	0.61	0.61	0.31	0.70	
Polity IV	0.32	0.83	0.14	0.45	0.26	0.30	0.24	0.23	0.21	0.32

N = 6013