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Selectivity on Aid Modality: Determinants of Budget Support from Multilateral Donors

by

Paul Clist, Alessia Isopi and Oliver Morrissey

Abstract

Since the late 1990s a selection on policy approach to aid was advocated such that more aid should be allocated to countries with good policies. A number of donors accepted this recommendation, including the World Bank, but there is little evidence that this has occurred. Donors, including the World Bank, seem no more likely to use policy and governance indicators to determine the amount of aid allocated to particular recipients. This paper argues that donors may exercise selectivity over the aid modality. Specifically, multilateral donors (we consider only EC and WB) will cede more recipient control over aid by granting more budget support to those recipients with better service delivery systems and spending preferences (towards the poor) aligned with the donor. We test this for the EC and WB over 1997-2007 and find some support. The principal determinant of receiving budget support has been having a PRSP process in place, and this can be considered a good indicator of aligned preferences. Furthermore towards the end of the period (2005-07) there was some increase in the share of countries receiving budget support but then government effectiveness was also a determinant of eligibility, and having a PRSP increased the amount of budget support. Multilateral donors have been more likely to give budget support to countries with aligned spending preferences and better quality systems, even if they have not reallocated the total aid envelope in that way.

Keywords: Aid Modality, Budget Support, Project Aid, Aid Selectivity

JEL classification: F35, O19

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Outline

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1 Introduction

The publication of *Assessing Aid* (World Bank, 1998) marked a watershed in debates on aid policy and advocated a selectivity approach whereby the effectiveness of aid could be increased if more was allocated to countries with good policies. This selectivity approach to aid allocation takes as a starting point the view that 'aid doesn't work' in the sense that the amount of aid alone has no effect on growth, but aid makes a positive contribution to growth in those countries with good policy (Burnside and Dollar, 2000). Furthermore, attaching policy reform conditionality to aid does not work, as donors 'are unable to exert significant net influence on policies and institutions, and are unable to by-pass the government in implementing expenditures' (Collier and Dollar, 2004: F245). As a consequence, (increased) aid should be given to those recipients already implementing good policies, especially to increase the effectiveness in poverty reduction (Collier and Dollar, 2002). The outcome was an argument for selective aid (re)allocation towards recipients with relatively good policies and institutions.

The underlying claims of this approach to selectivity have been challenged. A number of studies contest the claim that aid effectiveness in supporting growth is conditional on good policies (e.g. Hansen and Tarp, 2001; Dalgaard *et al*, 2004), whilst others find that aid has contributed to reducing poverty and improving the welfare of the poor independently of recipient policies (Mosley *et al*, 2004; Gomanee *et al,* 2005). The claim that conditionality is ineffective has also been contested (Mosley *et al*, 2004; Koeberle, *et al*, 2005; Morrissey, 2005). Interpreted strictly the claim is true: the *quantity* of aid is not a determinant of the *quality* of policy, or the specific reforms advocated by donors are rarely fully implemented within the relatively short time period of the associated aid programme. However, there is considerable evidence that the direction and broad content of reform for the majority of recipients is in line with what donors advocate (Koeberle, *et al*, 2005; in the case of trade reform see Jones *et al*, 2011), i.e. aid conditions have influenced the trend in policy over time.

Even if the link between recipient policy and aid effectiveness is weaker than claimed one may still expect some increase in 'selectivity on policy' in donor aid allocation following World Bank (1998). A number of donors did declare that they would make use of greater selectivity on policy, notably the US, Netherlands and the Bank itself (Hout, 2007a). However, there is very little evidence that donors increased the amount of aid they give to countries with better policies or institutions since the late 1990s (Nunnenkamp and Thiele, 2006; Hout, 2007a, 2007b; Easterly, 2007; Clist, 2009). This need not imply that donor aid allocation does not respond to recipient policy; it may be that donors alter the type of aid they give to a particular recipient based on their perceptions of the quality of policy and institutions. Many factors influence which countries individual donors give aid to; allocation is influenced by the commercial and strategic concerns of donors (recipients are chosen based on their ties to the donor) and by the needs of the recipients (see Clist, 2009). Individual donors tend to have their own selection criteria, although some global trends can be observed across many donors. For example, Boschini and Olofsgard (2007) find that the end of the Cold War is associated with a global reduction in aid in the 1990s although there was no significant effect on the pattern of allocation, whereas Headey (2008) finds that aid effectiveness increased after the end of the Cold War. This suggests that the changes were in the types of aid granted rather than selectivity in amounts of aid. Something similar may have occurred since the late 1990s. The purpose of this paper is to assess if two multilateral donors, the World Bank (WB) and EU collective aid (EC), exercise selectivity over aid modalities, so that it is the type of aid given

(and specifically the extent to which the donor retains control over disbursement) that responds to the quality of policy and institutions.

The conventional argument for why donors do not exercise selectivity on policy or governance is that conditionality fails: donors are unable to punish (by withdrawing aid) recipients who do not meet their conditions because the countries are poor and hence in need of aid (Collier, 1997). This is not an entirely convincing argument as donors could still exercise selectivity at the margin, by giving some more aid to countries that improve governance or policy and some less to those that do not (indeed, this is the argument in Collier and Dollar, 2002). As observed above, there is no evidence that this has happened. It is possible that the warm glow effect whereby donors 'gain utility from the act of giving' (Andreoni, 1990: 473) is so strong as to override concerns about governance. Donors appear to face the Samaritan's Dilemma where concern for the poor stymies their ability to punish low levels of recipient effort; Svensson (2000) argues this should be less of a concern for multilateral donors as they are likely to be less inequality-averse. Kilby (2009) suggests an alternative to the Samaritan's Dilemma argument for non-enforcement of World Bank structural adjustment conditions (at least for 'US friends'), arguing that it could be due to actual or anticipated donor pressure (i.e. the US can impose pressure on the Bank to condone non-compliance for certain countries).

This may overstate the problem faced by donors as even if they feel constrained in their ability to alter the levels of aid or enforce conditions they can still alter the type of aid. Whilst aid volumes may not be altered in response to poor governance, aid composition might: the policy lever for dealing with low levels of governance is the *type* of aid delivered, specifically the amount of control a recipient is granted. This suggests that donor allocation is not a two-stage decision of who gets aid and how much but a three-stage decision that also considers what type of aid should be given. This is elaborated in Section 2 with a brief review of the theoretical literature and the outline of a model to motivate the analysis of the third stage (we take the first two stages as given). Section 3 describes the data and empirical specification, while Section 4 reports and discusses the results. Section 5 concludes by considering if the increased use of budget support is indicative of selectivity on modality.

2 Modelling Aid Modality Choice

Once a donor has decided how much aid to allocate to a particular recipient they face a choice of how to deliver the aid. A number of factors will influence this choice related to dimensions such as administration costs and capacity building (e.g. is it more cost effective to work through recipient service delivery systems) or whether the donor wants to target the aid (on particular groups, regions or services). There are many different types of aid so that one could envisage a spectrum of modalities along the dimension of interest (such as the degree of donor as against recipient control, potential fungibility or transaction costs). The theoretical literature discussed below models the aid modality choice between two types of aid, typically Project Aid (PA) and General Budget Support (GBS) intended to capture the extremes of control over disbursement. Projects give control to the donor: they can select the target groups and the good or service being delivered, retaining control over implementation and therefore expenditure. At the other extreme, General Budget Support confers control to the recipient over allocating and administering the aid. In neither case is control complete (e.g. donors can influence budget allocation). In practice modalities are between the extremes; projects may involve donors and recipients working together while budget support may be targeted on a specific sector.

Project aid has always been attractive to donors but it imposes excess costs on recipients by encouraging fragmentation (many donors operating separate projects), a lack of co-ordination hence high transaction costs and, as it neglects recurrent expenditures and local systems, can undermine local institutions (Ohno and Niiya, 2004: 6). The shift towards programme and sector aid from the 1990s addressed some of these weaknesses by clustering projects (Harrold, 1995). Budget support is a natural extension intended to strengthen recipient systems and reduce administration costs. For example, the World Bank's budget support in Uganda was found to be twice as efficient as project support in terms of cost per dollar disbursed (Miovic, 2004). In contrast, 'for the Netherlands, the decrease in costs (due to pooled funding, harmonisation of procedures and less time needed in direct programme management) is outweighed by the increased time use due to co-ordination, particularly on the sector level... Overall, increased intensity of co-ordination has led to an increase of transaction costs for Ugandan partners' (Netherlands Ministry of Foreign Affairs, 2003: 71). An extensive evaluation found that the use of GBS improved the overall quality of aid through increased coherence, harmonisation and alignment (IDD, 2006). However, Killick (2004) and Frantz (2004) argue that there is limited evidence that GBS decreases transaction costs; Foster (2000) argues that GBS is in some cases less predictable; and Batley (2005) reports evidence of timing problems that undermine potential reductions in transaction costs. Although the nature of donor costs associated with PA and GBS differ, the evidence is inconclusive regarding which is more 'costly' (in our theory we therefore assume donors costs are the same for both types). Even if GBS does not deliver all the anticipated benefits it nevertheless signals support for and belief in the capacity of the recipient to use aid effectively. In contrast, donor-implemented projects are appropriate when there is limited trust or confidence in recipient systems to disburse aid effectively.

Cordella and Dell'Ariccia (2007, hereafter CDA) present the best known model of a donor's choice between GBS and PA representative of multilateral donors; we only outline the most relevant features to relate to our model. The model has a principle (donor), an agent (recipient) and two goods – a development and non-development good. The recipient derives utility from both goods, whereas the donor derives utility only from the development good and CDA assume that the donor is more altruistic than the recipient (although they only require that the donor and recipient have differing preferences over the two goods; recipient types are distinguished by their preference for the development good). The essential idea is that the donor wants to increase spending on development.

If the donor elects to use project aid they can target their aid on specific spending. However, total development spending may not increase by PA if the recipient reallocates some of its own spending (away from the project area); the effectiveness of PA is limited by fungibility. There is a related efficiency loss of project aid to the extent that it is not aligned with recipient activities (this can be seen as corresponding to the coordination and transaction costs mentioned above).[1] Thus, although PA gives the donor control over its aid this is at the expense of being unable to influence the recipient's expenditure allocation and imposes an efficiency cost on recipient spending; Kilby and Dreher (2010) argue that aid given according to recipient need is more effective than aid guided by donor interest. Unconditional budget support confers no influence on recipient action but also removes donor control over the use of aid, so this option would only be attractive if donor and recipient spending preferences are closely aligned. Conditional budget support allows the donor to influence recipient allocation by monitoring a component of

1 The CDA model assumes that project aid is never more efficient than GBS, but the evidence base for an efficiency gain from GBS is certainly not conclusive (Batley, 2005; Frantz, 2004; Killick, 2004; Netherlands Ministry of Foreign Affairs, 2003).

development spending (or equivalently requiring the recipient to undertake some costly action to increase development effectiveness). In this way the fungibility problem is solved, but at a cost: 'an inefficiency may emerge if donors are forced to impose higher levels of expenditure on the more controllable components of the budget' (Cordella and Dell'Ariccia, 2007: 1261).[2]

Leaving aside details and extensions there are three core implications of the CDA model. First, budget support only increases spending on the development good under conditionality so it imposes a cost on recipients. Second, budget support is preferred to project aid if preferences are reasonably well aligned and the efficiency loss of project aid is high, whereas project aid is favoured under the opposite conditions. Observing that aligned preferences imply projects are consistent with recipient allocation suggests this efficiency loss condition is generally redundant. Third, 'budget support is preferable to project aid when total aid is small relative to the recipient's own resources' (Cordella and Dell'Ariccia, 2007: 1261). The intuition for this is that fungibility is greater (more likely) when the project is small because it is a less important element of recipient spending hence easier for the recipient to adjust its own allocation.

Morrissey (2006) argues that the fungibility concern is rather unimportant. If donor and recipient preferences on allocation are aligned, then irrespective of the importance of aid in spending, recipients will allocate aid more or less in the way donors' desire and GBS is appropriate. White and Morrissey (1997) show that conditionality serves no useful purpose in this case and may be counter-productive because it introduces a risk of unintended non-compliance with conditions that may give an incorrect signal that the recipient is a 'bad' type. Morrissey (1996) also argues that fungibility is less likely to undermine GBS if aid is a *large* share of the budget. The intuition here has two elements: i) it is easier to monitor the allocation of spending over broad headings than actual spending on many particular projects, and ii) if aid is a large share of the budget recipients have fewer own resources to reallocate. Thus, fungibility arguments do not undermine the case for GBS to poor countries; fungibility is a 'red herring' (McGillivray and Morrissey 2000).[3] A more important issue in choosing GBS over project aid relates to the effectiveness of public spending; donor projects may be more effective at delivering services than government spending in poor countries (see Gomanee *et al*, 2005; Morrissey, 2009).

Jelovac and Vandeninden (2008) extend CDA by allowing donors to allocate aid to both modalities. The results are very sensitive to the assumptions made on the efficiency and fungibility losses of project aid but differ from CDA in two major ways. First, the effectiveness of conditionality (even assuming full commitment) depends on the efficiency of the two modalities, preference alignment and the relative size of the aid budget (CDA always prefer conditionality). Second, project aid is only preferred when preference alignment and project aid's efficiency loss are both low. Hefeker (2006) uses a similar model to CDA except that both types of spending are

2 Bougheas *et al.* (2007) also treat conditionality as a prior action that imposes a cost, but their concern is whether the donor will offer conditional or unconditional aid (which, they argue, depends on beliefs about the distribution of recipient types). This applies most clearly to the CDA scenario when recipient type is not known to the donor, and suggests that conditionality may not be effective in revealing recipient types.

3 McGillivray and Morrissey (2001) elaborate on this by distinguishing between policy officials (who negotiate with donors) and implementing officials (who undertake spending). Given imperfect transmission of information (such as on aid conditions) to spending officials, which is more likely to be the case when recipient systems are weak, there will be a difference between spending outcomes and intentions independent of any desire of policy officials to use aid as a fungible resource. Fritz and Kolstad (2008) also question the high degree of fungibility assumed by some of the theoretical papers.

arguments in the donor's utility and the recipient's reservation utility is given by a minimum level of aid (rather than no aid in CDA). As in CDA, budget support is preferred when aid is small relative to the recipient's own resources even if there is no preference alignment.

An Illustrative Model

Unlike the game theory approach in CDA and related papers, we follow the contract theory approach in the spirit of Azam and Laffont (2003). Even if aid contracts cannot be enforced (Hagen, 2006a), it captures the donor's decision process and we do not require complete enforcement. Consider the situation where an *altruistic* donor wants to delegate to a recipient country the production of q units of output, where $q \in \Re_+$. The production cost of the output is unobservable to the donor but it is common knowledge that the fixed cost, $\overline{C}$ is equal to zero and that the marginal productivity of the recipient, θ, belongs to the set $\Theta = \{\underline{\theta}, \overline{\theta}\}$. The recipient can have a marginal productivity equal to $\underline{\theta}$ with probability p (the 'good' type) or equal to $\overline{\theta}$ with probability $(1-p)$ for the 'bad' type. We denote by $\Delta\theta = \underline{\theta} - \overline{\theta} > 0$ the spread of uncertainty on the recipient's marginal productivity. When taking a production decision, the recipient is informed about the type θ.

After output has been realized, the donor fully commits in delivering to the recipient an optimal combination of two aid modalities: a_{BS} and a_{PA}. The first type of aid labeled *budget support* gives relatively more control to the recipient country on the ways in which the aid could be allocated, whereas the second, *project aid*, gives relatively more control to the donor in selecting target groups and administration procedures.[4] We assume that the total aid granted by the donor cannot exceed the budget constraint given by $\tilde{A} = pa_{BS} + (1-p)a_{PA}$.

The utility function for the productive recipient country is given by:

$$U_e^R(q, \underline{\theta}) = \gamma a_{BS} - \underline{\theta} q \quad \textit{with probability} \quad p \tag{1}$$

and for the less efficient recipient is

$$U_{ne}^R(q, \overline{\theta}) = \gamma a_{PA} - \overline{\theta} q \quad \textit{with probability} \quad (1-p) \tag{2}$$

In order to keep our analysis as simple as possible we assume that the marginal utility the recipient obtains from an increase in a_{BS} is equal to the marginal utility the recipient obtains from an increase of a_{PA}. As with CDA, the model has a multilateral donor in mind on the basis that they are more likely to be able to exercise selectivity and where we can more confidently assume that the donor is entirely altruistic. Although Hagen (2006b) argues that this would not resolve the Samaritan's Dilemma if aid efficiency varies across recipients, and it is not evident

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[4] Blake *et al* (2010) consider a principle-agent conceptual framework to motivate the argument that the desire to retain control over aid encourages donors to engage in project proliferation (assuming, by implication, that the costs of PA are perceived as low by the donors).

that multilaterals have less inequality aversion or are better able to enforce conditionality, it supports the tendency for multilaterals to be more selective. Following the arguments above, we do not consider fungibility as a factor in the donor's decision. The donor only needs to consider preference alignment and the productivity of the recipient. The utility function of the donor is given by:

$$V^D(q,\theta,a) = E[\lambda(U^R) - C(a)] \tag{3}$$

where λ represents the degree of interest that the donor has towards the recipient country, whereas $C(a)$ represents the total cost of giving aid which is given by $C(a) = \delta a^2$. Even though the two aid modalities may differ in terms of the level of monitoring required, we assume that the cost for the donor is the same in each case (as noted above, there is no clear evidence that transactions costs differ between PA and GBS).

Assuming the donor ignores the efficiency of the recipient (the complete information case is provided in the Theory Appendix) the maximization program is given by:

$$\max_{\{a_{BS};a_{PA}\}} \quad V: p\{\lambda[\gamma a_{BS} - \underline{\theta}\underline{q}] - \delta a_{BS}^2\} + (1-p)\{\lambda[\gamma a_{PA} - \overline{\theta}\overline{q}] - \delta a_{PA}^2\} \tag{4}$$

$$sub \quad \gamma a_{BS} - \underline{\theta}\underline{q} \geq 0 \tag{5}$$

$$\gamma a_{PA} - \overline{\theta}\overline{q} \geq 0 \tag{6}$$

$$\gamma a_{BS} - \underline{\theta}\underline{q} \geq \gamma a_{PA} - \underline{\theta}\overline{q} \tag{7}$$

$$\gamma a_{PA} - \overline{\theta}\overline{q} \geq \gamma a_{BS} - \overline{\theta}\,\underline{q} \tag{8}$$

$$\tilde{A} = p a_{BS} + (1-p) a_{PA} \tag{9}$$

Equation (4) represents the utility function of the donor; (5) and (6) represent the participation constraints for the two types of recipients (to ensure that the recipient will accept the offer and make zero profit); (7) and (8) represent the incentive compatibility constraints for both types of recipient (to ensure that each type of recipient self selects the best offer). The budget constraint for the donor ensures that the donor will eventually offer a combination of the two aid modalities that cannot exceed the level $\tilde{A}$.

Proposition 1 *The optimal levels of budget support and project aid that a donor is willing to transfer are given by:*

$$a_{BS}^* = \tilde{A} + \frac{(1-p)\underline{\theta}\Delta q}{\gamma} \tag{10}$$

$$a_{PA}^* = \tilde{A} - \frac{p\underline{\theta}\Delta q}{\gamma} \tag{11}$$

Proof 1 *See Theory Appendix.*

Equations (10) and (11) define the optimal level of budget support and project aid that an optimizing donor commits *ex ante* to an eligible recipient. Since we restrict the value of *p* in the range $p \in (0,1)$, the donor will always deliver a combination of both types of aid, which is increasing in the budget constraint that the donor faces every year. As we can see from (10) and (11), she is offers relatively more budget support (more control for the recipient) to a more productive recipient, but relatively more project aid when the recipient is less productive. More budget support is also delivered to the recipient that produces relatively more units of output q. Interestingly, the preferences of the donor for the recipient country do not play any role in the occurrence of the equilibrium or in the size of the aid transfers. This result is driven by the fact that the donor faces a budget constraint (which is always binding) that together with the assumption on the value of *p* ensures that even the less productive recipient gets some budget support. This may be an extreme case and as we associate the probability *p* of getting GBS with alignment, preferences will play a role in practice.

3 Empirical Specification and Data

The aim of the empirical analysis is to identify a form of aid that confers control to the recipient and test if giving such aid is influenced by measures of preferences (towards poverty reduction) and effectiveness of recipient systems. The type of aid we chose is GBS. Knack and Eubank (2009) is close in spirit as they propose a model in which an individual donor is more likely to use recipient systems if they are more likely to benefit from their improvement (measured by the donor's share of aid to the recipient), their citizens have a high level of trust in development aid and/or the recipient systems are already of a high level. This is tested using three dependent variables taken from the OECD (2008) to measure elements of recipient control relating only to 2008 (and covers an average of only 13 recipients per donor). As our concern is with the choice of GBS by WB and the EC we able to consider more recipients over a period of time (ten years).

The empirical specification for recipient (R) and donor (D) used to implement the model in Section 2 is:

$$GBS_{RD}/A_{RD} = f(p, \theta, \delta(\#D_R), [A_{RD}/A_D](\lambda), A_R/GNI_R, GNI_R pc) \qquad (12)$$

or alternatively

$$\frac{a_r}{A} = \beta_0 + \beta_1 Preferences + \beta_2 Governance + \beta_3 Transaction\ Costs + \beta_4 Controls + \varepsilon$$

With the expectation that $\beta_1 > 0$, $\beta_2 > 0$, and $\beta_3 < 0$. The dependent variable is the share of GBS in donor's aid to the recipient. Preferences represent the probability that R receives GBS (*p*), which depends on whether it is considered a good type, and are captured by indicators of alignment. The efficiency of the recipient (θ) is captured by governance or performance indicators. The donor's interest in R (λ) is captured by the share in donor aid $[A_{RD}/A_D]$. Transactions costs (δ) cannot be observed so we use the proxy of the number of donors ($\#D_R$); although in the model we do not assume a difference in costs between PA and GBS, a measure is included as the empirical analysis is effectively the choice of GBS or any other type of aid. Controls for the amount of aid a recipient gets – total aid (A_R/GNI_R) and per capita income ($GNI_R pc$) – are not specific to the donor as the GBS share is not determined by the volume of aid but may be affected by the importance of the recipient to the donor and to other donors.

Data on aid modalities are limited and often incomplete; not all aid can easily be ascribed to a particular modality and it is difficult to identify the level of recipient or donor control for any modality. We therefore estimate only the donor decision to give budget support (GBS), which is assumed to imply most control to the recipient, and use different measures to capture independent variables. The data covers 1997-2007 and up to 88 potential recipients; to smooth year on year volatility the explanatory variables are constructed as three year moving averages. The Data Appendix discusses the measures and sources in detail, and provides summary statistics, so the discussion here is limited to the core explanatory variables.

The principal measures used to capture the alignment of preferences (p) between donor and recipient is a binary variable that takes the value one for the year the recipient first publishes a Poverty Reduction Strategy Paper (PRSP); although the majority of countries have a PRSP appearing in 2000, many had different years and many had no PRSP (see Data Appendix Table A3 for the timeline). An alternative measure of alignment, public spending on education as a percentage of GDP, is also considered. Initially PRSPs were introduced as a second stage of eligibility for debt relief under the Highly Indebted Poor Countries (HIPC) initiative. HIPC countries were required to implement IMF and WB 'approved' macroeconomic policies for three years to reach the decision point (i.e. they exhibited macroeconomic prudence) to proceed to prepare a PRSP. This document set out a comprehensive strategy for poverty reduction supported by a plan for allocating public expenditure to address the strategy; Morrissey (2004) provides a discussion of PRSPs in the context of HIPC. The intention was that the strategy would be based on extensive public consultation, hence conferring ownership of the PRSP. While the concept of ownership can be questioned (Morrissey & Verschoor 2006), the prior actions, strategy and expenditure plans in a PRSP signal alignment of poverty reduction preferences and are likely to increase the efficiency of aid-funded government spending. The origin of PRSPs has implications: in the 1990s, only HIPC countries would prepare a PRSP, and the fact that they were doing so was known before the strategy was agreed. From the mid 2000s, however, the concept was broadened and non-HIPC countries drew up PRSPs.

The variable *government effectiveness* from Kaufmann *et al* (2010) is used to capture the efficiency of the recipient (θ). Alternative measures from the CPIA data are employed as a robustness check. The *equity of public resource use* is chosen to capture alignment, and *public sector management* is used in place of government effectiveness. These CPIA variables are only available over 2005-07 so the robustness analysis is limited to short period. However, this allows us to examine the later years more closely and we can assess any changes in the determinants of allocating GBS. Transaction costs are captured by the number of donors (higher fragmentation of aid suggests higher transaction costs) and aid dependency (aid as a % of GDP), while the income of a recipient (*GNI per capita*) is a control.

4 Econometric Results

As donors only give GBS to some recipients we estimate a two-stage model. The first (eligibility) stage is a probit for the donor where the dependent variable is a dummy equal to one if the recipient received GBS from the donor in that year (or one of the previous two years once GBS is first given to allow for misreporting in any single year); a zero denotes that the recipient has received aid from that donor, but not GBS. Countries that have not received any type of aid from the donor are not included, as the decision as to the amount of aid is seen as exogenous (predetermined by a prior decision of the donor). The second stage

estimates the amount of GBS as a share of aid from the donor, conditional on receiving GBS; this share equation is estimated by OLS.

Table 1 Determinants of GBS recipients, 1997-2007

	Eligibility Stage		Share Stage	
Donor	EC	WB	EC	WB
Public spending on education	-0.033	-0.10***	0.12	0.89
	(0.85)	(2.65)	(0.11)	(0.82)
PRSP document	0.78***	1.25***	-8.82*	-1.23
	(5.25)	(8.63)	(1.73)	(0.16)
Government Effectiveness	0.096	0.26	14.1***	-6.86
	(0.56)	(1.51)	(2.70)	(1.07)
Number of Donors	-0.036***	-0.0022	-0.28	-2.14***
	(2.93)	(0.22)	(0.80)	(4.52)
Aid/GNI %	0.029***	0.016**	0.17	0.53***
	(3.26)	(2.30)	(0.78)	(2.89)
GNI per capita (/100)	-0.0073**	-0.0057	-0.27**	0.00038
	(2.28)	(1.05)	(2.39)	(0.24)
Recipient Share in Donor Aid	0.39***	0.19***	5.01	0.56
	(3.44)	(4.63)	(1.33)	(0.35)
Observations	1058	927	221	188
Pseudo R^2/ R^2	0.195	0.300	0.088	0.202
GBS = 1 (% correct)	65.5	67.3		
GBS = 0 (% correct)	83.1	85.7		
Mean of Y	0.21	0.20	34.3	49.1

Note: The eligibility stage is the first stage regression using a probit with clustered standard errors (and pseudo- R^2 applies). The share stage is the second stage regression using OLS with clustered standard errors (R^2 applies). The *t*-statistics are provided in parentheses with 10, 5 and 1% significance levels denoted by ***, ** and * respectively. The coefficient on GNI per capita is divided by 100 for convenience.

Table 1 reports results for allocation of GBS by the EC and WB over 1997-2007; only recipients that receive some aid from the donor are included. The first two columns are the first stage eligibility (probit) regression; this performs quite well as usually over two-thirds of values are predicted correctly. The last row reports the fraction of recipients that receive GBS for each donor; WB gives at least some GBS to 20% of its aid recipients and the EC to 21% so in this respect they are very similar. The final two columns are the second stage share (OLS) results, where the last row indicates the amount of GBS; on average, GBS accounts for almost half of WB aid and just over a third for the EU. Thus, both donors give aid to about a fifth of recipients and when they do so it is likely to be a significant share of aid. They are willing to cede considerable control to recipients.

There are notable differences in the coefficients on determinants, comparing the EC and WB and their eligibility and share decisions. We consider eligibility first, i.e. what

factors influence the decision to grant GBS. Of the two alignment parameters, the existence of a PRSP is a significant determinant of receiving GBS for both donors. Public spending on education is only significant for WB eligibility (but negative). Thus *PRSP* seems better at capturing alignment, perhaps because the process allows donors to monitor and influence a recipient's spending pattern. As the World Bank is directly involved in the process it is not surprising that the effect is greater for WB. Both donors are more likely to give GBS to major aid recipients (positive coefficient on aid/GNI), especially if the recipient is important to that donor (recipient share in donor aid is highly significant). The EC is less likely to give GBS to richer recipients or those with higher fragmentation (a negative coefficient on GNI pc and number of donors respectively). Neither of these variables is significant for WB, and government effectiveness is not significant for either donor.

The samples for the share of GBS (levels stage) are obviously smaller so significance levels tend to be lower. The most interesting result is the striking difference in which variables are significant for each donor. In the case of the EC, conditional on receiving GBS the level is higher for more effective government, but lower when a PRSP is in place and for richer recipients. In the case of WB, in contrast, GBS is higher when aid/GNI is higher and lower the more donors are present (fragmentation). As there should be a tendency for higher aid/GNI ratios to be associated with more donors this suggests that WB is concerned with aid concentration. If there are fewer donors coordination is easier (and as there is likely to be a PRSP the main donors probably are coordinating) so for recipients receiving relatively high levels of aid more can be in the form of GBS. The EC, in contrast, grants GBS to (relatively) poorer countries receiving a lot of aid from fewer donors that are major recipients of EC aid. Given this, they receive more GBS if poorer but with relatively high government effectiveness (and if they are not involved in a PRSP process, noting that this lowers the probability of receiving GBS).

Table 2 reports the robustness check on eligibility for GBS over 2005-2007 with alternative measures for preference alignment and governance; the predictive power is again quite good. Obviously the sample sizes are lower but the tendency to grant GBS has risen to 27% of recipients for both donors. Neither education spending nor equality of public resource use is significant (and these are the only consistently insignificant variables), but PRSP remains significant. Again, PRSP seems much better at capturing alignment. Governance is now a significant determinant of the decision to grant GBS for both donors, whether measured by effectiveness or management (the former has higher significance). In the recent period the EC is more likely to give GBS to major aid recipients (positive coefficient on aid/GNI) and less likely for higher fragmentation (a negative coefficient on number of donors); both are more likely if the recipient is important to that donor (recipient share in donor aid is highly significant) and very slightly less likely for richer recipients (a negative coefficient on GNI pc). There does appear to have been increased selectivity for GBS as compared to the whole period, in 2005-07 a greater share of recipients received budget support and government effectiveness became a determinant, although a PRSP seems to remain the principal determinant.

The samples for GBS (share stage) are quite small for 2005-07 so few variables in Table 3 are significant. It is notable that on average the amount of GBS fell slightly for WB and significantly for the EC (from about a third to about a quarter of aid). The striking result is that having a PRSP in place is the only significant variable in most cases and is positive. Towards the end of the period, conditional on receiving GBS, having a PRSP seems to be the only significant determinant of the amount of GBS for both the EC and WB. As in Table 1, WB continues to give less GBS if there are many donors. All other variables are insignificant.

Table 2 GBS Eligibility 2005-2007, Robustness Check

Donor	EC	WB	EC	WB
Public spending on education	-0.048	-0.091		
	(0.86)	(1.45)		
Equality of Public Resource Use			-0.43	0.19
			(1.28)	(0.49)
PRSP document created	0.63**	2.22***	0.95**	0.96***
	(2.02)	(5.93)	(2.24)	(2.63)
Government Effectiveness	0.55**	1.20***		
	(2.17)	(3.60)		
Public Sector Management			0.77*	0.85*
			(1.82)	(1.73)
Number of Donors	-0.035*	0.012	-0.044**	0.004
	(1.89)	(0.47)	(1.96)	(0.19)
Aid/GNI %	0.057***	0.0073	0.055***	0.002
	(3.49)	(0.68)	(3.25)	(0.13)
GNI per capita (/100)	-0.00008**	-0.0002*	0.00002	-0.0002*
	(1.99)	(1.90)	(0.18)	(1.78)
Recipient Share in Donor Aid	0.43**	0.17*	0.70***	0.17*
	(2.47)	(1.92)	(3.25)	(1.92)
Observations	298	259	183	202
Pseudo R-squared	0.271	0.379	0.20	0.239
GBS = 1 (% correct)	74.6	66.0	67.7	75.5
GBS = 0 (% correct)	84.5	83.5	73.6	79.2
Mean of Y	0.27	0.27	0.40	0.35

Note: As for Table 1 first stage regression using a probit with clustered standard errors.

Table 3 GBS Shares 2005-2007, Robustness Check

Donor	EC	WB	EC	WB
Public spending on education	0.14	1.72		
	(0.08)	(0.89)		
Equality of Public Resource Use			-2.11	-12.4
			(0.31)	(1.46)
PRSP document created	6.52	20.8**	19.6**	20.0**
	(0.56)	(2.67)	(2.60)	(2.16)
Government Effectiveness	4.48	0.88		
	(0.62)	(0.10)		
Public Sector Management			14.4	9.28
			(1.39)	(1.07)
Number of Donors	-0.055	-1.44	-0.63	-1.56*
	(0.14)	(1.40)	(1.22)	(1.85)
Aid/GNI %	0.25	0.12	0.33	0.20
	(0.84)	(0.39)	(1.51)	(0.74)
GNI per capita (/100)	0.0013	-0.0026	-0.0013	-0.0008
	(0.67)	(1.32)	(0.62)	(0.31)
Recipient Share in Donor Aid	6.16	1.30	4.73	1.43
	(1.00)	(0.67)	(0.87)	(0.85)
Observations	81	69	74	71
R-squared	0.036	0.125	0.137	0.135
Mean of Y	26.5	46.9	24.7	46.7

Note: As for Table 1 second stage regression using OLS with clustered standard errors.

5 Conclusions and Discussion

World Bank (1998) advocated a selection on policy approach to aid: more aid should be allocated to countries with good policies. A number of donors accepted this recommendation, so we should have observed a selective aid (re)allocation towards recipients with relatively good policies and institutions. As noted in the introduction, there is little evidence that this has occurred since the late 1990s: donors, including the World Bank, seem no more likely to use policy and governance indicators to determine the amount of aid allocated to particular recipients. This paper argues that the amount of aid may not be a good indicator of donors' discretionary behaviour. For many reasons ranging for commercial self-interest to poverty aversion, individual donors will tend to allocate most of their aid to a fairly fixed set of countries without systematic changes over time in the share each receives (Clist, 2009). The donors do have ability to alter the way in which they deliver aid, and our suggestion is that selectivity is exercised over the aid modality. Specifically, multilateral donors (we consider only the EC and WB, the most prominent multilateral users of GBS) will cede more recipient control over aid (by granting more budget support) to those recipients with better (in the eyes of the donor) public expenditure monitoring and allocation mechanisms and better service delivery systems.

We suggest that this use of different aid instruments may offer a way out of the Samaritan's Dilemma: the amount of aid can be chosen to address poverty needs (the 'Samaritan impulse') while the type can be responsive to recipients effort and policies (the `efficiency impulse'). The focus of the analysis is on the decision of the two multilateral donors to grant budget support. There is a small theoretical literature related to this that focuses on the donor choice between project aid or budget support. We review this literature, which frames the choice largely in terms of fungibility, preference alignment and effectiveness of each of each type of aid. We argue that the concern with fungibility in these papers is misplaced and propose a simple model where preferences and efficiency are the determinants. In deciding whether to give budget support, the donor only needs to consider preference alignment as revealed by the recipient's allocation of government spending and the effectiveness of recipient relative to donor systems in delivering services. Donors will be more likely to give budget support to recipients whose allocation of public expenditure is in line with donor preferences, and will give more budget support if recipient systems are of higher quality. Furure work could extend the model, for example allowing the donor costs to differ across types of aid, to allow a richer interpretation.

The model is tested against EC and WB granting of budget support (GBS) with variables to capture alignment (specifically having a PRSP process, spending on education or equality of public resource use) and the quality of government systems (government effectiveness or public sector management) with a number of controls. Over 1997-2007 on average both WB and the EC give GBS to about a fifth of recipients and when they do so it is a significant share of their aid (half for WB and a third for the EC on average, although the latter fell to a quarter over 2005-07). The best indicator of preference alignment is the existence of a PRSP, a significant determinant of receiving GBS for both donors. This seems quite plausible for WB as the World Bank is closely involved in the PRSP process which incorporates (poverty reduction) expenditure allocation plans. The EC may be taking a PRSP as a signal of good expenditure allocation. For both donors, in the data a number of countries received GBS before agreeing a PRSP (it is possible that the donors knew the PRSP process was underway). The EC is less likely to give GBS to richer recipients or those with higher fragmentation (more donors); as the EC covers a wider (income) range of participants this suggests that GBS is concentrated in low-income countries. Both are more likely to give GBS to more aid dependent countries that are major recipients of aid from the donor.

Having decided to give GBS, government effectiveness is a significant determinant of the amount for the EC (but not WB). The EC grants more GBS to (relatively) poorer recipients. There is a suggestion that WB is concerned with aid concentration as it gives more GBS where there are fewer donors, hence more likely coordination, in major aid recipients (that have a PRSP process in place). Thus, in terms of the amount of GBS, the EC seems more concerned with government effectiveness whereas WB seems more concerned with potential for donor coordination (which can be interpreted as reducing transaction costs). Comparing results over 2005-2007 to the 1997-2007 period there is some evidence for increased selectivity in GBS as a greater share of recipients received budget support (although they tended to receive less, especially for the EC) in the later period. Government effectiveness became a determinant of eligibility for both donors in 2005-07 (and ceased to influence the share for the EC), although a PRSP seems to remain the principal determinant for eligibility (of course, by this time most countries had a PRSP). In the later period, conditional on receiving GBS, having a PRSP seems to be only significant determinant of the share of GBS for both the EC and WB. One interpretation is that as more recipients undertook a PRSP process the quality of public expenditure systems became a discriminatory determinant of eligibility for budget support.

In relatively aid dependent countries, those that argue that GBS is the preferred modality focus on the ability of donors to influence the spending composition of recipients. The PRSP process seems to have been a good indicator of such preference alignment and hence eligibility for budget support. Only recently has government effectiveness become an important determinant of eligibility; a PRSP then influences the level, perhaps because it indicates that agreed spending commitments are in place. As there has been an increase in the proportion of recipients receiving GBS from the EC and WB, there is an indication that they exercise some selectivity on aid modality, and that this reflects perception of alignment on spending and the effectiveness of government systems.

Future work could extend the analysis to address allocation of project aid. As there are many varied forms of aid delivery in practice, project aid allocation may not be the mirror image of GBS (the two need not sum to total aid). This is an issue to test. In general project aid is likely to be preferred when donors have less confidence in recipients systems, especially for monitoring and allocating expenditure. However, one could envisage situations where GBS is given to support and influence recipient capacity and spending, while projects are used to target specific areas of intervention. Donors are unlikely to make an 'either or' choice, and an extension of this work will be to consider a donor choice over how much of their in the form of budget support and how much in the form of project aid. Another extension is to consider bilateral donors, a number of whom have begun to make significant use of GBS (e.g. Britain and the Netherlands). This can be explained as donors rewarding recipients, by ceding more control over aid, for improving spending allocation and public sector efficiency.

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Theory Appendix

Complete Information

Proof.

$$\max_{a_{BS};a_{PA}} V:\ p\{\lambda[\gamma a_{BS}-\underline{\theta}\underline{q}]-\delta a_{BS}^2\}+(1-p)\{\lambda[\gamma a_{PA}-\overline{\theta}\overline{q}]-\delta a_{PA}^2\} \qquad (13)$$

$$sub \quad \gamma a_{BS}-\underline{\theta}\underline{q}\geq 0 \qquad (14)$$

$$\gamma a_{PA}-\overline{\theta}\overline{q}\geq 0 \qquad (15)$$

$$\tilde{A}=pa_{BS}+(1-p)a_{PA} \qquad (16)$$

Given that equation (16) is satisfied as a strict equality, we can rewrite it as:

$$a_{BS}=\frac{\tilde{A}}{p}-\frac{(1-p)a_{PA}}{p} \qquad (17)$$

Substituting now into (14) equation (17) and rearranging we finally get:

$$\frac{\gamma}{p}\tilde{A}-\frac{\gamma(1-p)}{p}a_{PA}-\underline{\theta}\underline{q}\geq 0 \qquad (18)$$

We substitute equation (17) also into equation (13), and we then maximize with respect to a_{PA}, μ_1 (i.e. the Lagrange multiplier with respect to the participation constraint for the efficient type (14)) and μ_2 (i.e. the Lagrange multiplier with respect to the participation constraint for the non efficient type, i.e. (15)).

The first order conditions with respect to a_{PA}, μ_1 and μ_2 are given by:

$$2\delta\frac{(1-p)}{p}[\tilde{A}-a_{PA}]-\mu_1\frac{\gamma(1-p)}{p}+\mu_2\gamma=0 \qquad (19)$$

$$\frac{\gamma}{p}[\tilde{A}-(1-p)a_{PA}]-\underline{\theta}\underline{q}=0 \qquad (20)$$

$$\gamma a_{PA} - \bar{\theta}\bar{q} = 0 \tag{21}$$

Let us analyze now under which conditions $\mu_1 > 0$ or $\mu_1 = 0$ and $\mu_2 > 0$ or $\mu_2 = 0$.

Assume first $\mu_1 = \mu_2 = 0$. Then equation (19) can be rewritten as:

$$\tilde{A} = a_{PA} \tag{22}$$

Now, since we restricted the value of $p \in (0,1)$, the result of (22) can never be verified and this implies that $\mu_1 = \mu_2 = 0$ can not be an equilibrium of the model.

Assume now $\mu_2 = 0$. From equation (19) we then get:

$$\mu_1 = \frac{2\delta}{\gamma}[\tilde{A} - a_{PA}] \tag{23}$$

Since we assumed $p \in (0,1)$ and being the budget constraint always satisfied as an equality, we know that $\tilde{A} > a_{PA}$, which implies $\mu_1 > 0$.

In this case, the optimal values for a_{PA}^* and a_{BS}^* will be given by:

$$a_{PA}^* = \frac{\tilde{A}}{(1-p)} - \frac{p\underline{\theta}\underline{q}}{(1-p)\gamma} \tag{24}$$

$$a_{BS}^* = \frac{\underline{\theta}\underline{q}}{\gamma} \tag{25}$$

We can now go back check whether $\mu_2 = 0$. We can rewrite equation (19) as:

$$\mu_2 = \mu_1 \frac{(1-p)}{p} - 2\delta \frac{(1-p)}{p\gamma}[\tilde{A} - a_{PA}] \tag{26}$$

Substituting now the value previously found for μ_1, we obtain $\mu_2 = 0$. Therefore equations (24) and (25) are the final equilibria[5].

Proof of Proposition 1

$$\max_{a_{BS};a_{PA}} V: p\{\lambda[\gamma a_{BS} - \underline{\theta}\underline{q}] - \delta a_{BS}^2\} + (1-p)\{\lambda[\gamma a_{PA} - \overline{\theta}\overline{q}] - \delta a_{PA}^2\} \qquad (27)$$

$$sub \quad \gamma a_{BS} - \underline{\theta}\underline{q} \geq 0 \qquad (28)$$

$$\gamma a_{PA} - \overline{\theta}\overline{q} \geq 0 \qquad (29)$$

$$\gamma a_{BS} - \underline{\theta}\underline{q} \geq \gamma a_{PA} - \underline{\theta}\overline{q} \qquad (30)$$

$$\gamma a_{PA} - \overline{\theta}\overline{q} \geq \gamma a_{BS} - \overline{\theta}\,\underline{q} \qquad (31)$$

$$\tilde{A} = p a_{BS} + (1-p) a_{PA} \qquad (32)$$

The ability of the efficient recipient, $\underline{\theta}$, to mimic the non efficient one, $\overline{\theta}$, implies that the $\underline{\theta}$'s participation constraint is always satisfied with as an equality and the participation constraint for the non efficient recipient together with the incentive compatibility constraint for the efficient recipient imply the participation constraint for the efficient type.

Indeed, the incentive compatibility constraint for the non efficient type seems irrelevant giving that the problems arise when an efficient type claims to be non efficient rather than the opposite. This leaves us with three relevant constraints: the incentive compatibility constraint for the $\underline{\theta}$ type, the participation constraint for the $\overline{\theta}$ and the budget constraint.

Given that equation (32) is satisfied as an equality we can rewrite it as:

$$a_{BS} = \frac{\tilde{A}}{p} - \frac{(1-p)a_{PA}}{p} \qquad (33)$$

[5]Analogously can be proved that $\mu_1 = \mu_2 > 0$ and $\mu_1 = 0$ and $\mu_2 > 0$ cannot be equilibria of this model.

Substituting now into (30) equation (33) and rearranging we finally get:

$$\frac{\gamma}{p}[\tilde{A} - a_{PA}] - \underline{\theta}\Delta q \geq 0 \qquad (34)$$

where $\Delta q = \underline{q} - \overline{q} > 0$. Substituting equation (33) also into equation (27) we can then maximize with respect to a_{PA}, μ_1 (i.e. the Lagrange multiplier associated to the (30)) and μ_2 (i.e. the Lagrange multiplier associated to the (28) constraint).

The first order conditions with respect to a_{PA}, μ_1 and μ_2 are given by:

$$2\delta\frac{(1-p)}{p}[\tilde{A} - a_{PA}] - \mu_1\frac{\gamma}{p} + \mu_2\gamma = 0 \qquad (35)$$

$$\frac{\gamma}{p}[\tilde{A} - a_{PA}] - \underline{\theta}\Delta q = 0 \qquad (36)$$

$$\gamma a_{PA} - \overline{\theta}\overline{q} = 0 \qquad (37)$$

Let us analyze now under which conditions $\mu_1 > 0$ or $\mu_1 = 0$ and $\mu_2 > 0$ or $\mu_2 = 0$. Assume first $\mu_1 = \mu_2 = 0$. Then equation (35) can be rewritten as:

$$\tilde{A} = a_{PA} \qquad (38)$$

Now, since we restricted the value of $p \in (0,1)$, the result of (38) can never be verified and this implies that $\mu_1 = \mu_2 = 0$ can not be an equilibrium of the model.

Assume now $\mu_2 = 0$. From equation (35) we then get:

$$\mu_1 = \frac{2\delta(1-p)}{\gamma}[\tilde{A} - a_{PA}] \qquad (39)$$

Since we assumed $p \in (0,1)$ and the budget constraint being always satisfied as an equality, $\tilde{A} > a_{PA}$, which implies $\mu_1 > 0$. Therefore, the optimal values for a_{PA} and a_{BS} will be given by:

$$a^*_{BS} = \tilde{A} + \frac{(1-p)\underline{\theta}\Delta q}{\gamma} \tag{40}$$

$$a^*_{PA} = \tilde{A} - \frac{p\underline{\theta}\Delta q}{\gamma} \tag{41}$$

We can now go back and check whether the assumption of $\mu_2 = 0$ still holds. We can rewrite then equation (35) as

$$\mu_2 = \mu_1 \frac{1}{p} - 2\delta \frac{(1-p)}{\gamma p}[\tilde{A} - a_{PA}] \tag{42}$$

Substituting now into (42) the value we previously obtained for μ_1 we obtain that $\mu_2 = 0$. Therefore, equations (10) and (11) are the final equilibria[6].

[6]Analogously can be proved that the two remaining cases i.e. $\mu_1 = \mu_2 > 0$ and $\mu_1 = 0; \mu_2 => 0$ cannot be solutions for this model.

Data Appendix

Dependent variables

The dependent variable for the first stage (eligibility) is a binary variable, GBS=1 for all years in which the donor (EC or WB) makes a commitment of GBS to the recipient (turned on in the first year) and GBS=0 otherwise. For the second stage (shares) the amount of GBS is expressed as a percentage of total donor aid commitments to the recipient (where total aid is from the same data source). Although commitments will differ from disbursements they are taken as representing the donor intentions.

The data on GBS timing and value and total aid are from the Creditor Reporting System (CRS) of the OECD-DAC, accessed at http://stats.oecd.org/ .

Independent variables

Two measures are used to capture the alignment of preferences between donor and recipient. The first is a *prsp* dummy that takes the value one from the year the recipient publishes a PRSP. An agreed PRSP reflects recipient ownership of a pro-poor strategy and captures alignment as the process includes an indication of how government spending allocation will be directed at poverty reduction. Thus, a PRSP is likely to increase the efficiency of aid-funded government spending targeted at the poor. The measure may not be precise as initially PRSPs were introduced as part of the HIPC debt relief process after the decision stage (when approved macroeconomic policies were sustained for a number of years) but before the completion stage (debt relief was granted after the PRSP was agreed). Morrissey (2004) discusses PRSPs in the context of HIPC debt relief. However, from the mid 2000s the coverage of PRSPs was extended beyond only the HIPC initiative, sometimes associated with the IMF Poverty Reduction Growth Facility. Thus, the PRSP measure is no more than a proxy of alignment.

The second measure is *public spending on education* as a percentage of GDP as an indicator of 'pro-public expenditure' (Gomanee *et al*, 2005); to the extent that higher education spending is associated with expanded access to primary education is captures allocation that benefits poorer households.

Government effectiveness is conceptualised as the ability of the recipient to convert aid inputs into development outcomes. We expect that a donor is less likely to use recipient systems if the recipient has low scores on indicators of effectiveness. There are two main datasets which are relevant here: the World Bank Governance Matters (Kaufmann *et al*, 2010) dataset and the CPIA. From the first we choose the variable *government effectiveness* available from 1996 for up to 190 countries. The CPIA includes the variables *general public sector quality* and the *quality of the budget*, but only for up to 75 countries over the years 2005-2008. The two sets of variables are correlated, particularly *public sector management* and *government effectiveness* (0.84). *Government Effectiveness* is chosen as it provides the best reflection of the theoretical conceptualisation of governance (which is the efficiency of government in producing a development good) and coverage.

Alternative measures are employed as a robustness check over 2005-07 by replacing two variables (*education spending* and *government effectiveness*) with two variables taken from the CPIA data. The *equity of public resource use* is chosen to measure alignment. The variable captures government spending and taxation in relation to their effect on the poor. The specific indicators are (IEG, 2009: 79):

- 'Identification of those (individuals, groups, localities) that are poor, vulnerable, or have unequal access to services and opportunities
- Adoption of national development strategy with explicit interventions to assist groups identified above
- Systematic tracking of composition and incidence of public expenditures and their results feed back into subsequent allocations
- Incidence of major taxes (progressive or regressive) and their alignment with poverty reduction priorities'

This variable captures alignment as conceptualised in the theoretical literature, as the share of discretionary resources allocated to the poor. The second variable from the CPIA is *public sector management*. It is quite highly correlated with *government effectiveness*, but has a narrower focus. Again, it closely resembles the theoretical literature as it is the efficiency of the government, rather than a broader notion of governance that includes, for example, democratic values.

To the extent that they capture the efficiency of project aid transaction costs are an argument for using aid modalities that give the recipient more control. If this is a major motivation, we would expect more control (GBS) to be granted to recipients that face higher transaction costs. The *number of donors* is included as a measure of how fragmented aid is within a given country. The expectation is that recipients with higher fragmentation would have higher transaction costs, and in turn see more efforts by donors to reduce these costs. Ideally this would be a concentration measure, but this is not readily available. Aid dependency is another potential indicator for higher transaction costs: for a recipient that receives large amounts of aid relative to its GDP, especially if from many donors, transaction costs are likely to be higher as a percentage of GDP (even when assuming some economies of scale). The measure of aid dependency used is *aid as a % of GDP*.

A number of other variables are included as controls. The income of a recipient (*GNI per capita* PPP in international dollars) is used to measure income. Controlling for income then allows for the quality of governance to be understood relative to the recipient's income level. The *share of a donor's aid budget* that a recipient receives is included as donors are more likely to grant recipient control (GBS) to recipients that are important to them. In Knack and Eubank (2009) this variable is motivated by the reputational stake a donor has in a country, and the likely ability of the recipient to benefit from any resulting institutional improvement. In our case it can also be interpreted as capturing the potential for the donor to give some aid in the form GBS if it has a large programme in the recipient.

Data sources

PRSP – Information on the year in which a PRSP was agreed is taken from the IMF (http://www.imf.org/external/np/prsp/prsp.asp)

Education spending – The amount of public money spent on education as a share of GDP from the World Development Indicators, provided by the World Bank, accessed at http://data.worldbank.org/data-catalog/world-development-indicators. Missing data (especially in the years after 2006 and before 1998) are replaced with the nearest available data. This closely mirrors the best available data a donor would have.

The equity of public resource use - This ranges from 1 to 6, with a more positive number meaning a more positive situation, and is taken from the CPIA, provided by the IMF and available from the World Bank's databank at http://data.worldbank.org/indicator/IQ.CPA.ECON.XQ

Public sector management - It is taken from the CPIA, the answer to Q13 in the public sector module from http://data.worldbank.org/indicator/IQ.CPA.ECON.XQ The variable ranges from 1 to 6, with a more positive number meaning a more positive situation.

Government Effectiveness – this is taken from the Worldwide Governance Indicators (WGI), accessed at http://info.worldbank.org/governance/wgi/index.asp The variable ranges from -2.5 to 2.5, with a more positive number meaning a more positive situation.

Number of donors – This was constructed using the CRS/OECD dataset (http://stats.oecd.org/) to identify the number of donors giving aid to a recipient in a given year.

Aid/GNI – This is taken from the World Development Indicators (WDI), accessed at http://data.worldbank.org/data-catalog/world-development-indicators .

GNI per capita PPP (in current international dollars is taken from the World Development Indicators, WDI).

Share of a donor's aid budget –The total amount of aid disbursed by a donor in a given year was used as the denominator to give data in the form *x*% of donor's aid in year *t* was allocated to country *y*.

Tables A1 and A2 provide summary statistics and correlations respectively for the core variables corresponding to the four samples (eligibility and share stages for both the EC and WB) in Table 1 in the text. The main points to note are that there is variation between the samples. For eligibility (Tables A1a and A1b), on average (means) the EC gave aid to richer countries with lower aid dependency, higher government effectiveness and accounting for a lower share of donor aid. Conditional on receiving GBS, (Tables A1c and A1d), on average (means) the EC gave a lower share of aid as GBS than WB to richer countries with more diversified aid dependency and accounting for a lower share of EC aid. It is also evident that there are some countries that made net aid repayments to the WB, indicated by negative aid or (-) for recipient share ion donor aid. Table A2 shows that the correlation between the explanatory variables is quite low in each sample.

Table A3 provides a timeline indicating the first, if any, year a recipient received GBS from the EC or WB and the year a PRSP was agreed. We can see considerable 'bunching' in 2000 but there are notable differences. The EC was relatively early in granting GBS to African countries whereas the WB tended to be earlier for transition economies. African countries seemed more likely to get GBS before or in the year they agreed a PRSP. As these are HIPC countries, it is quite possible that the likelihood of a PRSP was known before the document was agreed (e.g. they may have reached the HIPC decision point).

Table A1: Summary Statistics (corresponding to Table 1)

A1a EC (Eligibility)	Obs	Mean	Std. Dev.	Min	Max
GBS	1058	0.16	0.37	0	1
Public spending on education	1058	4.35	2.39	0.58	17.8
PRSP document	1058	0.31	0.46	0	1
Government Effectiveness	1058	-0.38	0.59	-1.8	1.35
Number of Donors	1058	31.52	7.86	9	46
Aid/GNI	1058	7.22	9.00	-3.01	65
GNI per capita	1058	4174	3870	290	22420
Recipient Share in Donor Aid	1058	0.53	0.75	0	6.81

A1b WB (Eligibility)	Obs	Mean	Std. Dev.	Min	Max
GBS	927	0.20	0.40	0	1
Public spending on education	927	4.16	2.20	0.58	13.84
PRSP document	927	0.40	0.49	0	1
Government Effectiveness	927	-0.49	0.57	-1.8	1.35
Number of Donors	927	32.76	7.25	10	46
Aid/GNI	927	8.62	9.12	-3.01	65
GNI per capita	927	2873	2549	290	16230
Recipient Share in Donor Aid	927	1.07	2.02	(-)	14.58

A1c EC (Share)	Obs	Mean	Std. Dev.	Min	Max
GBS	221	0.37	0.48	0	1
Public spending on education	221	4.12	2.07	1.29	12.15
PRSP document	221	0.60	0.49	0	1
Government Effectiveness	221	-0.55	0.53	-1.71	1.06
Number of Donors	221	32.73	8.01	10	45
Aid/GNI	221	13.30	10.17	-3.01	55.54
GNI per capita	221	2256	2439	310	11770
Recipient Share in Donor Aid	221	0.81	0.78	0	5.55

A1d WB(Share)	Obs	Mean	Std. Dev.	Min	Max
GBS	188	0.49	0.27	0.21	1
Public spending on education	188	3.50	1.57	1.28	9.63
PRSP document	188	0.82	0.38	0	1
Government Effectiveness	188	-0.58	0.35	-1.57	0.36
Number of Donors	188	36.44	5.03	17	45
Aid/GNI	188	12.17	8.65	0.1	55.06
GNI per capita	188	1680	1302	320	7350
Recipient Share in Donor Aid	188	2.57	2.8	(-)	14.58

Table A2: Correlation Matrix (corresponding to Table A1)

A1a	GBS	Educ	PRSP	GEffec	#Donors	Aid/GNI	GNIpc
GBS	1						
Educ	-0.0489	1					
PRSP	0.3178	-0.0986	1				
GEffec	-0.1519	0.2041	-0.2921	1			
#Donors	0.0791	-0.315	0.3964	-0.2043	1		
Aid/GNI	0.3474	0.025	0.3921	-0.3655	0.058	1	
GNIpc	-0.2547	0.0737	-0.4143	0.585	-0.3999	-0.4998	1
R Share	0.192	-0.0941	0.0725	0.006	0.3394	0.0678	-0.1326

A1b	GBS	Educ	PRSP	GEffec	#Donors	Aid/GNI	GNIpc
GBS	1						
Educ	-0.1505	1					
PRSP	0.4328	-0.0425	1				
GEffec	-0.0843	0.2239	-0.2471	1			
#Donors	0.2563	-0.2437	0.3616	-0.1099	1		
Aid/GNI	0.1966	-0.0173	0.2977	-0.2815	-0.0323	1	
GNIpc	-0.2362	0.093	-0.3611	0.5653	-0.27	-0.4764	1
R Share	0.3731	-0.1953	0.2012	-0.0371	0.38	0.0399	-0.2961

A1c	GBS	Educ	PRSP	GEffec	#Donors	Aid/GNI	GNIpc
GBS	1						
Educ	0.0267	1					
PRSP	-0.1001	-0.1983	1				
GEffec	0.1364	0.1504	-0.0874	1			
#Donors	-0.0138	-0.2356	0.4703	-0.1875	1		
Aid/GNI	0.0431	-0.103	0.2857	-0.3368	0.1432	1	
GNIpc	-0.0652	0.1807	-0.3625	0.5316	-0.4948	-0.4804	1
R Share	0.1386	-0.1637	0.1016	-0.0879	0.4843	0.1323	-0.316

A1d	GBS	Educ	PRSP	GEffec	#Donors	Aid/GNI	GNIpc
GBS	1						
Educ	0.0979	1					
PRSP	-0.1578	0.085	1				
GEffec	-0.1468	0.2231	0.0621	1			
#Donors	-0.406	-0.1694	0.3861	0.1069	1		
Aid/GNI	0.2017	0.0485	0.0816	-0.2671	-0.0767	1	
GNIpc	-0.0555	0.1508	0.0121	0.3707	-0.0944	-0.465	1
R Share	-0.2	-0.1746	-0.0141	0.1962	0.4929	-0.2031	-0.1427

Table A3: Timeline for GBS and PRSP

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Albania						WB		EC			
Angola							EC				
Armenia	WB				P		EC				
Azerbaijan	WB				P						
Bangladesh							WB, P				
Benin	EC			P	WB						
Bhutan								P		WB	
Bolivia				P	WB						
Burkina Faso	EC		WB	P							
Burundi				EC		WB		P			
Cambodia				WB, P							EC
Cameroon		EC	WB	P							
Cape Verde		EC			WB	P					
Chad	WB	EC		P							
Comoros				EC						P	
Congo, Rep.		EC				P					
Djibouti	EC				WB, P						
Dominica				EC				WB, P			
Dominican Rep										EC	
Ethiopia		EC		P		WB					
Georgia	WB			P	EC						
Ghana		EC		PRSP	WB						
Grenada				EC						P	
Guinea		EC		P	WB						
Guinea-Bissau				EC, WB, P							
Guyana		EC		P		WB					
Honduras	WB			P							
India				WB							
Jordan						EC					
Kenya				EC, P			WB				
Kyrgyz Rep				WB	P						
Lesotho				P	EC						
Macedonia, FYR	WB		EC								
Madagascar	WB			P							
Malawi				WB, P							
Mali		EC		P	WB						
Mauritania		EC		WB, P							
Mauritius											EC
Moldova	WB			P							EC
Mozambique	WB			EC, P							
Nepal							WB, P				
Nicaragua				P			WB				
Niger	EC			WB, P							
Pakistan					WB, P						
Paraguay										EC	
Rwanda			WB	P							
Senegal										E, W	
Sierra Leone				EC, WB	P						
Sri Lanka						P	WB				
St. Lucia				EC							
Sudan				EC							
Tajikistan			WB	P			EC				
Tanzania		EC	WB	P							
Togo				EC							
Tonga				EC							
Tunisia					EC						
Uganda	WB	EC		P							
Vanuatu					EC						
Zambia		EC	WB	P							

Notes: Countries listed received GBS from EC and/or WB and table lists the first year it was given and the year a PRSP was agreed (indicated by P); countries in *italics* never agreed a PRSP. The full sample included countries that received aid but no GBS (three agreed a PRSP, indicated by the year): Botswana, Chile, China, Colombia, Costa Rica, Ecuador, El Salvador, Equatorial Guinea, Eritrea, Indonesia, Maldives, Mongolia (2001), Morocco, Nigeria (2005), Philippines, Samoa, Solomon Islands, South Africa, Swaziland, Thailand, Turkey, Uzbekistan (2005).