Development Paper
No. 2010/01

Budget Support
and
MDG Performance

March 2010

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European Commission
Directorate-General for Development
and Relations with African,
Caribbean and Pacific States

Budget Support and MDG Performance

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Revised draft, 30 March 2010[1]

***Summary**: This study analyses the relationship between the provision of general budget support (GBS) and MDG performance, by disaggregating countries into "high" and "low" budget support recipients and assessing the extent to which selected MDGs have improved in each of these groups. We find that high GBS recipients have performed better, often significantly so, in all four MDGs assessed (covering primary enrolment, gender parity in education, child mortality, and access to water), as well as in terms of improvements in the Human Development Index, in the period 2002-2007. Correlation analysis also suggests that there is a positive relationship between budget support receipts and MDG performance (significant in the case of both education indicators and the HDI), but it is not always strong and other factors will also be important determinants of MDG performance. We also find that even after we control for the quality of the policy environment, income level and aid dependency, high GBS recipients have on average still performed better than other countries. It should be emphasised that this study is an analysis of association, not causality. Nevertheless, the results overall do provide more comprehensive support for the view that countries receiving large amounts of budget support perform better than those receiving little or no budget support.*

1. Introduction

Budget support is becoming an increasingly important modality for the provision of aid. But the debate regarding how best to evaluate budget support has been lengthy and complex, and evidence regarding its impact remains relatively limited. Much analysis has focused on the more intermediate effects of budget support on country systems, government capacity and service delivery. And while case stories from individual budget support recipients summarising changes in key Millennium Development Goals (MDG) indicators have provided interesting and useful illustrations, there is little comprehensive quantitative analysis regarding whether budget support recipient countries have performed better in terms of achieving the MDGs. At the same time, much of the assessment of progress towards the MDGs has focused on geographical differences in performance, with comparatively little analysis of whether such differences can be associated with differences in aid, or in aid modality.

This study aims to help bridge that gap by collating data on trends in performance of key MDG indicators and on *general* budget support, and by analysing whether there are differences in MDG performance between countries that may be classified as high or low budget support recipients. There will of course be many factors that influence MDG performance. Indeed, we should *expect* there to be a positive association if aid effectiveness arguments in favour of using country systems are correct, and to the extent that budget support is targeted at countries likely to show superior performance towards achieving the

[1] This discussion paper has been prepared by Jonathan Beynon (jonathan.beynon@ec.europa,eu) and Andra Dusu of DG Development, European Commission (Economic Governance and Budget Support Unit, C/3). It has benefited from many constructive comments from Commission colleagues, but views remain those of the authors.

MDGs. This analysis can only show association not causality, and will therefore neither prove nor disprove any hypothesis regarding the impact of budget support on MDG performance. But it may nevertheless provide a useful and valuable complement to the more anecdotal case stories and existing literature.

Section 2 of this paper summarises some of this literature. Section 3 outlines the methodology and main results, with a summary and conclusions in Section 4.

2. Literature review

MDG performance

The latest UN MDG progress report (UN, 2009) notes that while there have been some impressive achievements – a reduction in the proportion of those living in extreme poverty in the developing regions from 42% to 25% between 1990 and 2005, primary school enrolment rates up from 83% in 2000 to 87% in 2007, and deaths of children under five down from 12.6 million in 1990 to around 9 million in 2007 - progress overall is mixed and many countries, particularly in Sub-Saharan Africa, are unlikely to meet the Goals under current rates of progress[2].

In seeking to explain these differences, the Report emphasizes that "advances are most evident where targeted interventions have had an immediate effect, and where increased funding has translated into an expansion of programmes to deliver services and tools directly to those in need ... In contrast, progress has been more modest when it requires structural changes and strong political commitment to guarantee sufficient and sustained funding over a longer period of time" (page 5). However, the analysis concentrates on geographical differentiation, with little discussion of the different aid instruments that donors can use.

Bourguignon et al's 2008 review of the MDGs at Mid-Point similarly points out that while global progress is surprisingly good, most countries will fail most goals, with Sub Saharan Africa remaining the lagging region with respect to both income and non-income MDGs. They also note that progress across different MDGs is weakly correlated, and also weakly correlated with per capita GDP growth. But even though they seek to assess MDG achievements using a simple analytical framework that includes the volume, nature and effectiveness of aid, they do not present any quantitative evidence regarding the differential impact of alternative aid instruments.

Budget support evaluations

The main contribution to the budget support evaluation literature is the OECD-DAC joint evaluation, covering Burkina Faso, Malawi, Mozambique, Nicaragua, Rwanda, Uganda and Vietnam over the period 1994-2004. The overall assessments by the country studies were clearly positive except in two cases[3], and the evaluation concluded that budget support had

[2] For latest progress chart, see: http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2009/MDG_Report_2009_Progress_Chart_En.pdf

[3] In Malawi a first effort at budget support stalled due to over-optimistic expectations concerning macro-economic discipline. In Nicaragua, significant funds had only recently begun to flow and it was judged too soon to provide an ex post assessment.

been a relevant response to acknowledged problems in aid effectiveness, and can be an efficient, effective and sustainable way of supporting national poverty reduction strategies. In particular, it found that the provision of GBS had positive effects on harmonisation and alignment, and on strengthening government ownership and accountability. It also had positive effects on allocative and operational efficiency of public expenditure, and on government capacity, particularly in public finance management (PFM). Budget support had also led to improvements in access to services in most countries, though there were concerns over quality. There was no evidence of significant crowding out of private investment or of undermining domestic revenue effort, nor any clear evidence that budget support funds were more affected by corruption than other forms of aid. These broadly positive findings were strongest in Uganda, where the duration and scale of budget support has been greatest (OECD-DAC, 2006)[4].

Recent independent evaluations of Commission country programmes in countries where budget support has been a significant feature have also been generally positive and recommended the continuation of budget support, noting *inter alia* the improvement of dialogue between the EC and partner country governments, the improved harmonisation and coordination amongst donors, the improvement of public financial management, the positive effect on the budget allocation towards social sectors in some countries, and the important role of budget support in accompanying and stimulating partners' policy reforms[5].

However, it has proven difficult to assess the impact of budget support on poverty reduction and other MDG indicators of ultimate interest. Questions of attribution, and also of assessing what might have been achieved with alternative instruments (the counterfactual), have proven difficult to address. Most other assessments of budget support have also focused on the more immediate effects of budget support on donor coordination, ownership and domestic accountability, PFM reform, and budget processes and other institutional changes, with somewhat mixed results[6].

One exception has been an OXFAM study considering the effects of budget support on the MDGs on health and education. The report shows that government spending on education has increased by 31% (1999-2005) in eight of the countries that receive some of the largest amounts of the Commission's general budget support (Ghana, Kenya, Madagascar, Mali, Mozambique, Niger, Rwanda, and Zambia), with significant increases in primary school enrolments in all but one of these. The study reported an equally positive story concerning health care. Of the top ten recipients of EC budget support, seven increased their public health expenditure on average by 46% (2001-04). In all seven there has been an increase in life expectancy. In five of them there has also been a fall in maternal mortality rates. The report reiterates that the Commission is not exclusively responsible for these positive results, but "the evidence does show that where it is giving large amounts of budget support, headway is being made in reducing poverty" (OXFAM, 2008).

[4] A revised evaluation methodology is currently being piloted in Zambia, Mali, Tunisia and Tanzania, but results are not expected until late 2010/early 2011. A fuller set of country evaluations using this methodology (amended as necessary in light of the pilots), will only be available in 2012 at best.

[5] See, for example, the evaluations finalised in 2009 covering Uganda, Botswana, Nicaragua, Vietnam, and the MEDA region [http://ec.europa.eu/europeaid/how/evaluation/evaluation_reports/reports_by_year_en.htm], summarised in the Commission's 2009 Annual Report (forthcoming).

[6] These include a number of studies from other donor agencies, development policy think tanks, and other civil society organisations. See companion literature review (forthcoming).

The Commission itself has used a number of individual country cases showing progress against key indicators in countries receiving budget support (European Commission, 2008)[7], but this has not been analysed or presented in a systematic way.

Aid-growth regressions

A much wider set of literature has used cross-country regression analysis to assess the impact of aid on growth. Early studies from the 1970s-1990s appeared to suggest that aid had little impact at a macro level, but in a highly influential yet controversial study Burnside and Dollar (2000) concluded aid *did* have a positive effect on growth, but only in the presence of good policies. However, subsequent work by Hansen and Tarp (2001) amongst others suggested that aid worked irrespective of the policy environment, while others continued to find no impact of aid. The econometric debate still rumbles on (Arndt et al, 2009).

Very few studies, however, were undertaken that sought to differentiate the impact of different types of aid on growth. One early attempt (Cordella and Dell'Ariccia, 2003) drew on the same dataset as Burnside and Dollar (2000), but with aid decomposed into its project and programme components[8]. They first confirm BD's basic result (that aid has a significantly positive effect on growth only in the presence of good policies), then show that budget support has a bigger effect on growth in the presence of good policies than project support (but a worse effect in the presence of poor policies).

Clemens et al (2004) tried a slightly different approach by dividing aid into three categories: (1) emergency and humanitarian aid that is likely to be negatively correlated with growth, as it is provided in times of crisis and not directly intended to promote economic growth; (2) aid meant to support democracy and institutions building, health and education, that affects growth only over a very long period of time; and (3) aid that could have a short term impact, namely budget and balance of payments support, investments in infrastructure, and aid for productive sectors, i.e. agriculture and industry. They conclude that there is a positive, causal relationship between the "short-impact" aid and economic growth (with diminishing returns), and that it is the heterogeneity of aid flows and not aid recipients that is the key reason for the mixed earlier results. This analysis does not, however, differentiate between different aid *instruments* as such.

More recently, Outtara and Strobl (2008) disaggregated aid into four component parts (technical assistance, food aid, project aid, and financial programme aid[9]). They use this to test the three main stories that emerged from the aid-growth literature (Burnside and Dollar – aid works in countries with sound policies; Hansen and Tarp – aid has a significant positive impact but is not contingent on policy; Dalgaard et al – aid works better outside the tropics), but with this differentiation between aid modalities. Their results suggest that project aid financing exerts a positive significant impact on growth, whilst the impact of financial

[7] This booklet highlights achievements in Rwanda, Burkina Faso, Nicaragua, Vietnam, and Morocco, where budget support has accounted for a significant share of Commission assistance.

[8] They classify as budget support the series VI.11 (non-sector allocable programme assistance whose provision is explicitly linked to agreed policy packages, in particular those implementing recommendations made by the WB and IMF) and VI.12 (all actions relating to debt forgiveness, swaps, buy-backs, rescheduling and refinancing). All sector specific aid is classified as project aid.

[9] They analyse the period 1974-2001 using (as does most of the econometric literature on aid and growth) four year averages. Aid data (net disbursements) are drawn from the OECD Credit Reporting System, but Ouattara and Strobl have to effectively assume that project and programme aid disbursement rates are more or less the same in order to construct a disbursement data series converted from the commitment figures.

program aid is negative. Food aid and TA appear to have no effect on growth. However, the authors highlight the limitations of their analysis and caution against concluding in favour of project based lending, pointing to the need for having more country-specific studies.

Summary

In summary, the case study based evidence says very little about the impact of budget support on our ultimate indicators of interest (the MDGs), and is in any case insufficiently comprehensive or comparative to allow clear conclusions to be drawn. On the other hand, the cross-country regression analysis is both limited and contradictory, and to be treated with much caution. Moreover, as noted above by Bourguignon et al (2008), there is very little correlation between per capita economic growth and MDG performance. This study therefore seeks to fill a gap in the literature, by providing a systematic and quantitative analysis of the link between budget support and MDG performance, without trying to prove or claim causality.

3. Methodology and Main Results

The objective of this study is to analyse whether there are differences in MDG performance between major recipients and low or non-recipients of general budget support (GBS), and also whether increased levels of GBS are associated with improved MDG performance.

3.1 Data

Budget support data

GBS data, expressed as a percentage of both ODA and GDP, are drawn from the OECD DAC CRS online database. The study focuses on the period 2002-2007 for which disbursement data (the more appropriate indicator of actual GBS receipts) are available, but also considers GBS commitment data which go back to 1995. The figures reported in the CRS system are gross figures[10]. We are unfortunately forced to exclude sector budget support from the analysis, because this is not separately identifiable within the DAC database.

It is worth noting here that commitment and disbursement ratios are highly correlated for the period 2002-2007, although disbursements were typically only half what had been committed. Moreover, average budget support disbursements are actually quite low, being only 5% of ODA and 1% of GDP in the ACP (Africa, Caribbean and Pacific) region, lower still if weighted averages are used, or if calculated across all aid recipients or just Africa. Finally, the

[10] *Aid data* from the OECD-DAC database http://stats.oecd.org/Index.aspx. The guide notes that "The completeness of CRS commitments for DAC members has improved from 70% in 1995 to over 90% in 2000 and reached nearly 100% starting from 2003 flows. As to the analysis on CRS disbursements it is not recommended for flows before 2002, because the annual coverage is below 60%, while it is around and over 90% since 2002 and reached nearly 100% starting with 2007 flows. Therefore data on commitments before 1995 and disbursements before 2002 are not available in the results table or in the micro data." (CRS User's Guide, OECD-DAC).

The extracted data contains instances where there are no values, and they appear as "..". Due to a shortcoming of the database, the ".." cannot distinguish between "0" values and missing data. However, given the high levels of coverage reported, the study makes the assumption that when a ".." value appears in the table, it actually means that no disbursements/commitments have been made, thus their value is 0. This assumption is supported by the OECD-DAC Data Collection Unit.

distribution of budget support is highly skewed, concentrated in a relatively small number of countries with most receiving little or no budget support at all. See Annex A2 for details.

MDG and HDI data

MDG data are drawn from the UN online database[11], with analysis focusing on the following four indicators:

2.1 Net enrolment ratio in primary education;
3.1 Ratios of girls to boys in primary, secondary and tertiary education;
4.1 Under-five mortality rate;
7.8 Proportion of population using an improved drinking water source.

Poverty data (indicator 1.1) were reluctantly omitted because for many countries the data were just too sporadic to allow a meaningful sample to be analysed. We were also unable to analyse maternal mortality (5.1), because UN data are only available for the single year 2005. Analysis of the HIV/AIDS indicator (6.1) was excluded because of the very large amounts of money provided through vertical funds. Besides these four indicators, the study also included the analysis of the Human Development Indicator (HDI), also drawn from the UN online database[12]. Data availability is summarised in Table 1.

The study focuses initially on the ACP region, as this is the region where levels and/or rates of improvement in MDG indicators have generally been weakest, is the region to which GBS flows have been the most significant (and also the most variable, allowing for greater differentiation between recipients), and is also the region to which the vast majority of Commission GBS has been provided. But additional analysis is also undertaken covering both all aid recipients, and more specifically at Africa (separating out the effects of a large number of small island states, some of which have received very large but volatile amounts of GBS).

Table 1: Data availability

Data/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
GBS current USD millions disbursements													x	x	x	x	x	x
GBS current USD millions commitments						x	x	x	x	x	x	x	x	x	x	x	x	x
ODA current USD millions disbursements	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ODA current USD millions commitments	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
GDP current USD millions	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
MDG 2.1		x								x	x	x	x	x	x	x	x	x
MDG 3.1		x								x	x	x	x	x	x	x	x	x
MDG 4.1	x					x					x					x		x
MDG 7.8	x					x					x						x	
HDI	x					x					x					x	x	x

* *x means there is (generally) available data for the respective year*

[11] http://mdgs.un.org/unsd/mdg/Home.aspx

[12] http://hdr.undp.org/en/ Changes in methodology mean that annual data are not directly comparable, and the Human Development Report Offices strongly advises against constructing HDI trend analysis based on the HDI published in different editions of the Report. But the HDR 2009 presents a time series in HDI for 1980, 1985, 1990, 1995, 2000, 2005, 2006 and 2007. This time series uses the latest HDI methodology and the most up-to-date trend data for each component of the index, and are therefore used for our study.

3.2 GBS and MDG performance, 2002-2007

Methodology

We initially calculated GBS/ODA and GBS/GDP aid ratios for each year for which data were available (for both GBS disbursements and commitments), and then calculated averages for each country for the period 2002-2007.

We also calculated the absolute change[13] in the value of each MDG indicator over the same 2002-2007 period wherever possible (but 2000-2006 for MDG indicator 7.8 and 2000-2007 for MDG indicator 4.1 and the HDI). Missing MDG data meant that not all countries could be included. This was particularly true for MDG indicators 2.1 and 3.1, for which our analysis consequently used not only a sample based exclusively on those countries with data for both 2002 and 2007 (the "strict" sample), but also a larger sample of all countries which had data starting and/or ending within 2 years of these dates, subject to the period covered being at least 3 years (the "full" sample).

Each country in each of our different MDG/HDI samples was then categorised as a "low" (L), "medium" (M) or "high" (H) budget support recipient according to whether it fell within the bottom, middle or top third group of countries ranked by their average GBS ratio over the period 2002-2007 (separate analysis being done for GBS/ODA and GBS/GDP)[14]. For each group (L, M or H) of countries, we then computed the average change in each MDG/HDI indicator for those countries[15], and plotted the results in bar-chart graphs for each indicator. The same analysis was also done using the *median* change in each MDG/HDI indicator (to reduce the impact of any extreme outliers).

In addition, for each of our samples, we calculated both the Pearson correlation coefficient (directly correlating the level of GBS with the change in MDG/HDI indicator), and also the Spearman rank correlation coefficient (which correlates each country's GBS and MDG/HDI ranking, and tends to reduce the effect of outliers). Scatter diagrams plotting the average level of GBS against change in MDG/HDI indicator for each country were also constructed.

Results

A summary of the main results for all ACP countries looking at average absolute changes in each indicator for low, medium and high budget support countries (covering GBS/ODA and GBS/GDP disbursements) is set out in Table 2 and Figure 1 below. An illustration of the additional analysis (percentage change and median change for MDG indicator 2.1, and scatter

[13] Absolute (rather than percentage) changes are considered more appropriate, because a 5% point improvement in for example primary enrolment from 90 to 95% is *at least* as challenging as improving, say, from 50 to 55%, yet a percentage change calculation would value this less. However, percentage changes were also calculated and are presented in the Annex.

[14] The set of countries falling within each category therefore differs slightly for each MDG/HDI sample. Countries that appear consistently in the L, M or H category for all five indicators are listed in Annex Table B4. For purposes of consistency across indicators, a second set of calculations applied a fixed GBS threshold for all indicators and for each measure of the aid data (although this obviously results in an unequal number of countries within each L/M/H category).

[15] T-tests were performed (using excel's t-test function for a one-tailed test of 2 samples of unequal variance) to assess whether these differences between H and L countries were significant.

diagrammes for MDG indicators 2.1 and 4.1) is set out in Figure 2. Main results for all countries and for Africa are set out in Tables/Figures 3 and 4. A complete set of results is contained in Annex B.

Results – ACP countries

Looking first at the results for GBS/ODA disbursements in Table 2 and Figure 1 (left hand side) for all ACP countries, we immediately notice a clear positive trend for most indicators, with performance in the MDG indicator being higher as the aid ratio increases. Indeed, high budget support recipients perform better than low budget support countries indicators for all five indicators, and in most cases significantly so:

- primary enrolments improved by over 8 percentage points in high GBS countries, but only less than 1 in low GBS recipients;
- gender parity improved by 6 percentage points in high GBS countries, but no change in low GBS support recipients[16];
- child mortality fell by 17 (deaths/1000) in high GBS countries, but only 13 in low GBS recipients;
- the population using improved drinking water improved by 3.4 percentage points in high GBS countries, but only 2 in low GBS recipients;
- the improvement in the HDI was 70% higher in high GBS countries (0.043) than in low GBS recipients (0.026).

Table 2: GBS disbursements (2002-2007) and change in MDG indicators (ACP countries)

Absolute change in	GBS/ODA						GBS/GDP					
	L	M	H	*Pearson/ correl coeff.*	*Spearman*	*T-test*	L	M	H	*Pearson/ correl coeff.*	*Spearman*	*T-test*
2.1: primary enrolment rate (% point) (1)	0.7	3.8	8.7	0.11	0.27	0.04	0.0	2.0	11.6	-0.04	0.35	0.01
- average GBS ratio in each category	*0.04%*	*2.33%*	*9.56%*	*ns*	**		*0.00%*	*0.26%*	*2.39%*	*ns*	**	
3.1: education gender disparity ratio (% point) (1)	0.1	2.9	5.8	0.40	0.41	0.00	0.4	4.0	6.0	0.27	0.49	0.00
- average GBS ratio in each category	*0.05%*	*2.10%*	*10.77%*	***	***		*0.01%*	*0.25%*	*2.88%*	**	***	
4.1: under 5 mortality rate (deaths/1000, + = reduction)	13.4	12.0	17.3	0.04	0.08	0.19	13.6	11.3	19.3	0.03	0.18	0.13
- average GBS ratio in each category	*0.04%*	*1.72%*	*10.01%*	*ns*	*ns*		*0.01%*	*0.23%*	*2.81%*	*ns*	*ns*	
7.8: % of people using improved drinking water source	2.1	3.9	3.4	-0.09	0.04	0.17	2.4	4.0	3.7	-0.09	0.07	0.19
- average GBS ratio in each category	*0.10%*	*2.16%*	*11.93%*	*ns*	*ns*		*0.01%*	*0.26%*	*2.57%*	*ns*	*ns*	
HDI: Human Development Index	0.026	0.031	0.043	0.35	0.32	0.02	0.026	0.030	0.045	0.37	0.37	0.02
- average GBS ratio in each category	*0.22%*	*2.63%*	*8.23%*	**	**		*0.01%*	*0.24%*	*1.64%*	***	***	

Notes: (1) full sample for indicators 2.1 and 3.1; (2) correlation coefficient levels of significance: ***=1%; **=5%; *=10%

The results for the medium category are slightly out of line for indicators 4.1 (child mortality) and 7.8 (access to water), but it should be noted that average GBS receipts in the medium GBS countries are actually quite low (around 2% of ODA, compared to just above zero in the low GBS countries and 10% in the high GBS countries). The observation for indicator 4.1 that MDG performance is lower than for low GBS recipients is therefore not so surprising. The result for indicator 7.8, however, suggests that other factors are dominating any relationship between GBS and access to water.

Results for GBS/GDP (right hand side of Table 2 and Figure 1) follow a similar pattern, as do results for GBS commitments (Annex B).

The correlation coefficients do not appear that high, but are positive and generally statistically significant for both education indicators (2.1 and 3.1) and the HDI, though not for indicators

[16] Note that the UN unit of measurement for this series marks gender parity as a 1 (not 100%), but we have adjusted this here for ease of comparison (such that for example a change from 0.82 to 0.88 is regarded as a 6 percentage point improvement). Note also that in our analysis any reduction towards parity in (the few) countries where girls enrolment had been higher than boys (ie >1) is treated as a negative (not positive) change.

4.1 and 7.8[17]. This confirms that while there is generally a positive relationship between budget support receipts and MDG performance, it is not always strong and other factors are also likely to be playing an important role, particularly with respect to child mortality and access to water.

Figure 2 illustrates the results of some of our other tests with reference to GBS/ODA disbursements and (primarily) to MDG 2.1 (primary enrolment rate). The top chart shows percentage (rather than absolute) changes in the indicator, confirming the pattern of better performance in high GBS countries but giving another dimension of scale (18% improvement in high GBS countries compared to 1% improvement in low GBS countries). The second chart reports the median change in the indicator, showing no improvement in the medium GBS countries (again, not very surprising given the low values of GBS even in this medium category), but an even greater MDG performance in the high GBS countries[18]. The third and fourth charts show a couple of the scatter diagrammes, illustrating the rather weak correlations for these indicators, but also the presence and effects of a few outliers (Marshall Islands in indicator 2.1; Marshall Islands, Palau and the Federated States of Micronesia in indicator 4.1 where average GBS receipts were exceptionally high)[19].

[17] These differences are not so surprising in the light of Bourguignon et al's (2008) observation that there is little correlation in performance between MDGs, a conclusion at least partly borne out by our own analysis (with MDGs 4.1 and 7.8 generally again being more weakly correlated).

[18] This is because the average is dragged down significantly by poor performance in MDG 2.1 in a couple of small high GBS countries (Cape Verde and the Marshall Islands).

[19] Given the possibility that these small country outliers were having a disproportionate and distorting affect on our results, we also tested whether excluding countries below a certain population (we tested both 100,000 and 1 million) made much difference to our results, but found that with the exception of MDG 2.1 (where correlations were substantially improved to around 0.4 - significant at the 1% level - and the statistical significance of the difference between High and Low GBS recipients was strengthened), there was little change in our results.

Fig 1: Relation between GBS and MDG/HDI Indicators, c.2002-2007 (ACP countries)

GBS/ODA disbursements **GBS/GDP disbursements**

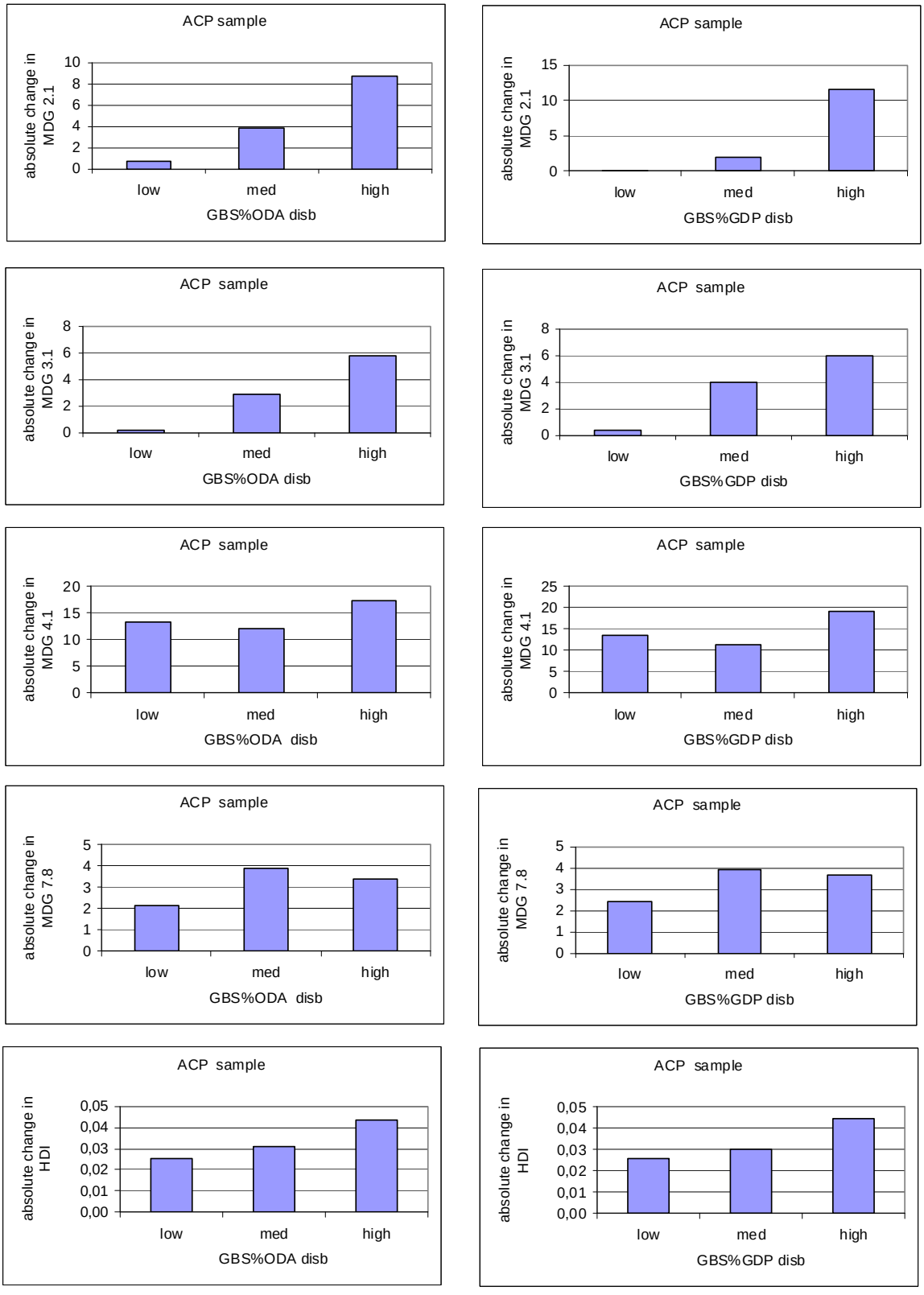
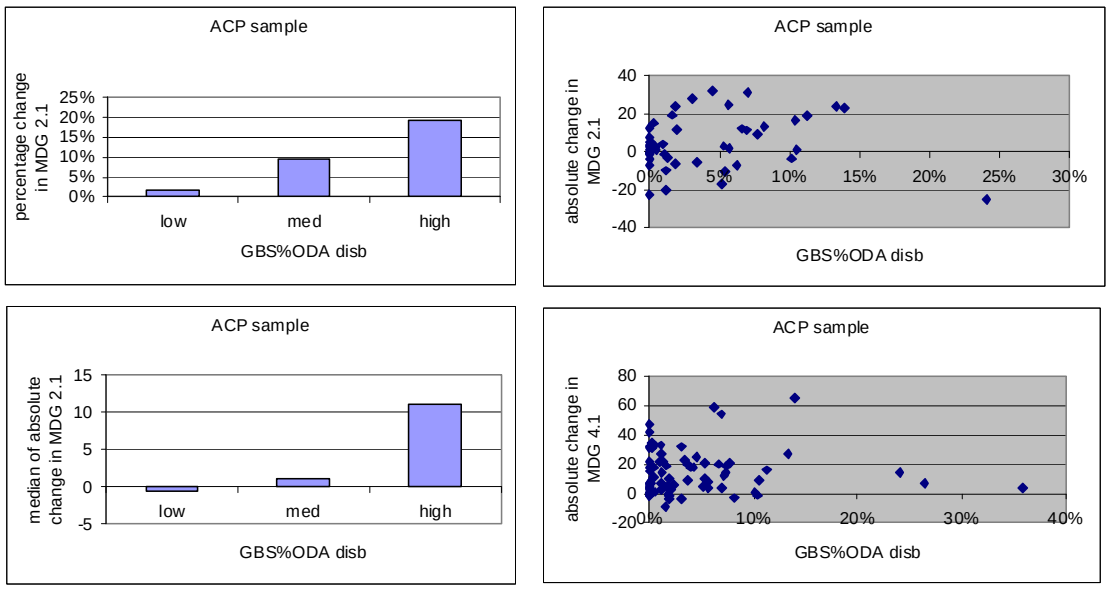


Fig 2: Additional Analysis of GBS/ODA disbursements and MDG 2.1 (2002-2007) (ACP countries)



Results – Africa

The main results for Africa are presented in Table 3 and in Figure 3, and are broadly similar to those for the whole ACP sample, with the exception of the link with child mortality. Specifically (with regard to GBS/ODA disbursements):

- primary enrolments improved by 14 percentage points in high GBS countries, but only 1.1 in low GBS recipients;
- gender parity improved by 6 percentage points in high GBS countries, but only 3 in low GBS support recipients;
- child mortality fell by 21 (deaths/1000) in high GBS countries, although this was lower than the 25 recorded in low GBS recipients;
- the population using improved drinking water improved by 4.4 percentage points in high GBS countries, but only 3.4 in low GBS recipients;
- the improvement in the HDI was 78% higher in high GBS countries (0.045) than in low GBS recipients (0.025).

Once again, results for GBS/GDP (right hand side of Table 3 and Figure 3) follow a similar pattern, as do results for GBS commitments (Annex B).

As expected, the omission of the smaller island states that dominate much of the Caribbean and Pacific has resulted in some improvement in some of the correlation coefficients, although there is still effectively no correlation with indicators 4.1 and 7.8.

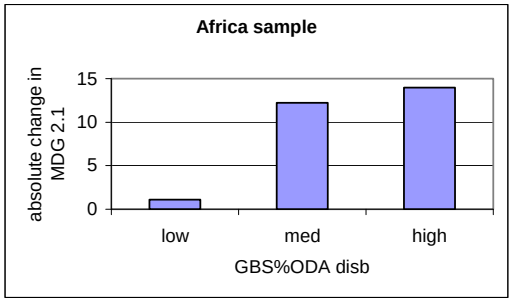
Table 3: GBS disbursements (2002-2007) and change in MDG indicators (African countries)

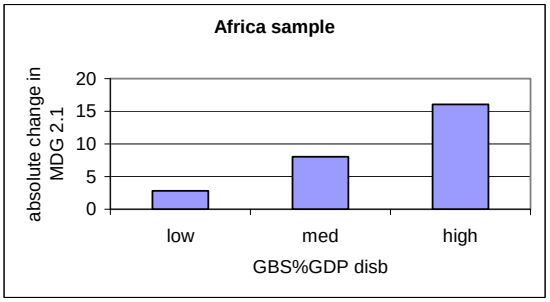
Absolute change in	GBS/ODA						GBS/GDP					
	L	M	H	*Pearson/ correl coeff.*	*Spearman*	*T-test*	L	M	H	*Pearson/ correl coeff.*	*Spearman*	*T-test*
2.1: primary enrolment rate (% point) (1)	1.1	12.2	14.0	0.45	0.43	0.00	2.8	8.1	16.1	0.49	0.45	0.01
- average GBS ratio in each category	*0.29%*	*3.41%*	*8.83%*	***	***		*0.02%*	*0.44%*	*1.98%*	***	***	
3.1: education gender disparity ratio (% point) (1)	2.9	4.6	6.4	0.22	0.32	0.03	1.9	5.6	6.3	0.39	0.43	0.01
- average GBS ratio in each category	*0.34%*	*3.07%*	*8.31%*	*	**		*0.03%*	*0.34%*	*1.84%*	***	***	
4.1: under 5 mortality rate (deaths/1000, + = reduction)	24.6	11.5	20.6	0.09	-0.16	0.26	23.1	12.0	21.6	0.18	-0.07	0.40
- average GBS ratio in each category	*0.27%*	*2.76%*	*8.13%*	*ns*	*ns*		*0.02%*	*0.31%*	*1.80%*	*ns*	*ns*	
7.8: % of people using improved drinking water source	3.4	4.5	4.4	0.04	0.01	0.27	3.1	4.8	4.4	-0.08	0.02	0.22
- average GBS ratio in each category	*0.27%*	*2.59%*	*8.13%*	*ns*	*ns*		*0.02%*	*0.28%*	*1.79%*	*ns*	*ns*	
HDI: Human Development Index	0.025	0.031	0.045	0.38	0.35	0.05	0.025	0.031	0.045	0.35	0.35	0.04
- average GBS ratio in each category	*0.30%*	*2.80%*	*8.11%*	**	**		*0.02%*	*0.25%*	*1.64%*	**	**	

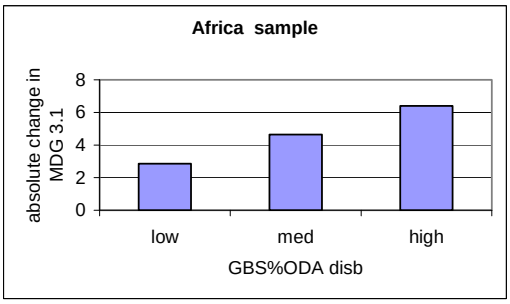
Notes: (1) full sample for indicators 2.1 and 3.1; (2) correlation coefficient levels of significance: ***=1%; **=5%; *=10%

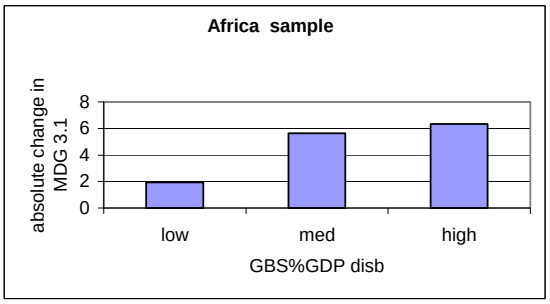
Fig 3: Relation between GBS and MDG/HDI Indicators, c.2002-2007 (Africa)

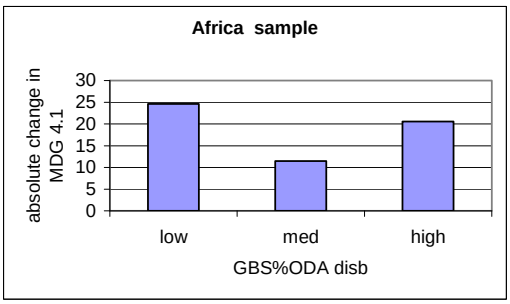
GBS/ODA disbursements **GBS/GDP disbursements**

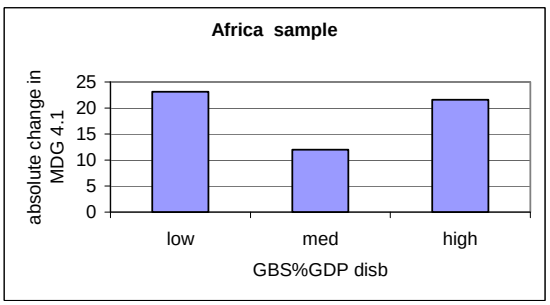


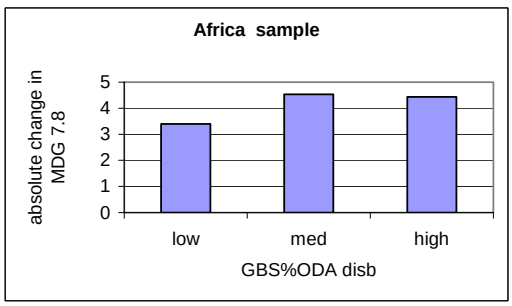


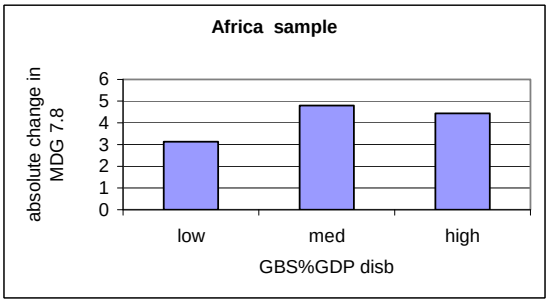


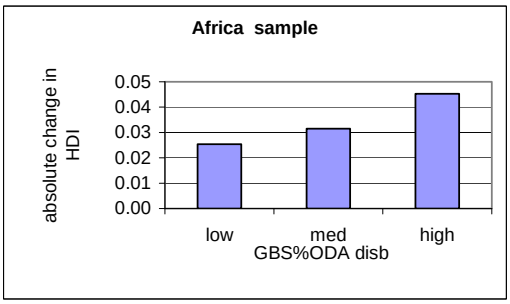


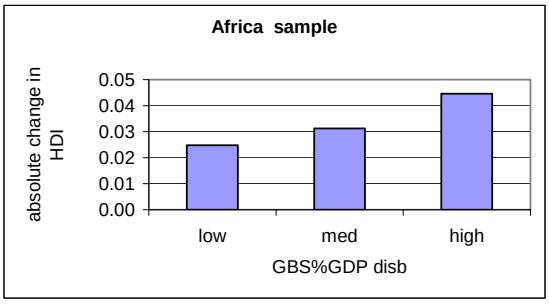












Results – all aid recipients

When we extend the analysis to all aid recipients (Table 4 and Figure 4), we find that:

- primary enrolments improved by 5 percentage points in high GBS countries, but by less than 1 in low GBS recipients;
- gender parity improved by over 4 percentage points in high GBS countries, but by less than 1 in low GBS support recipients;
- child mortality fell by 16 (deaths/1000) in high GBS countries, and by 10 in low GBS recipients;
- the population using improved drinking water improved by 3.5 percentage points in high GBS countries, but only 1.6 in low GBS recipients;
- the improvement in the HDI was 30% higher in high GBS countries (0.043) than in low GBS recipients (0.033).

Once again, high budget support recipients outperform low budget support recipients for all indicators, this time significantly so in every case, including for both the child mortality and water access indicators, which for this larger sample also show more a more positive correlation using the GBS/GDP ratio (right hand side of Table 4).

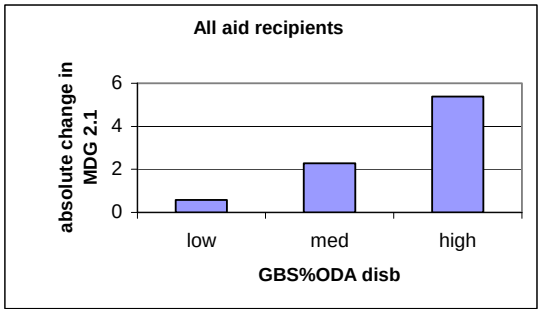
Table 4: GBS disbursements (2002-2007) and change in MDG indicators (ALL aid recipients)

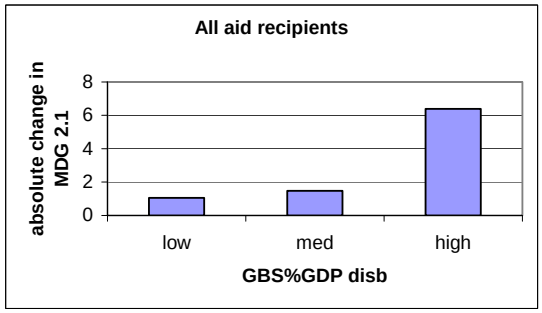
Absolute change in	GBS/ODA						GBS/GDP					
	L	M	H	*Pearson/ correl coeff.*	*Spearman*	*T-test*	L	M	H	*Pearson/ correl coeff.*	*Spearman*	*T-test*
2.1: primary enrolment rate (% point) (1)	0.6	2.3	5.4	0.01	0.13	0.05	1.1	1.5	6.4	0.00	0.21	0.02
- average GBS ratio in each category	*0.00%*	*1.10%*	*9.03%*	*ns*	*ns*		*0.00%*	*0.06%*	*1.27%*	*ns*	**	
3.1: education gender disparity ratio (% point) (1)	0.8	2.4	4.4	0.30	0.36	0.00	0.4	1.5	5.1	0.23	0.44	0.00
- average GBS ratio in each category	*0.00%*	*0.99%*	*8.04%*	***	***		*0.00%*	*0.05%*	*1.67%*	***	***	
4.1: under 5 mortality rate (deaths/1000, + = reduction)	10.3	13.5	15.9	0.06	0.15	0.02	8.7	13.1	16.5	0.08	0.24	0.00
- average GBS ratio in each category	*0.00%*	*0.87%*	*7.40%*	*ns*	*ns*		*0.00%*	*0.05%*	*1.59%*	*ns*	***	
7.8: % of people using improved drinking water source	1.6	4.4	3.5	-0.07	0.11	0.02	1.3	3.5	4.7	-0.04	0.22	0.00
- average GBS ratio in each category	*0.01%*	*1.13%*	*9.61%*	*ns*	*ns*		*0.00%*	*0.06%*	*1.53%*	*ns*	**	
HDI: Human Development Index	0.033	0.038	0.043	0.29	0.22	0.04	0.035	0.038	0.040	0.24	0.17	0.18
- average GBS ratio in each category	*0.03%*	*1.22%*	*6.47%*	***	**		*0.00%*	*0.04%*	*0.93%*	***	**	

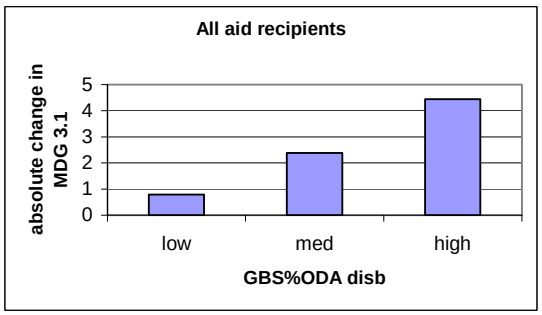
Notes: (1) full sample for indicators 2.1 and 3.1; (2) correlation coefficient levels of significance: ***=1%; **=5%; *=10%
(3) For the GBS/GDP measure for MDG 2.1, the lower threshold was fixed to 0.002%, as more than one third of countries received no GBS.

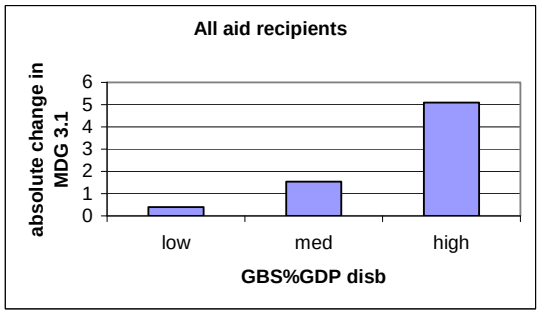
Fig 4: Relation between GBS and MDG/HDI Indicators, c.2002-2007 (All aid recipients)

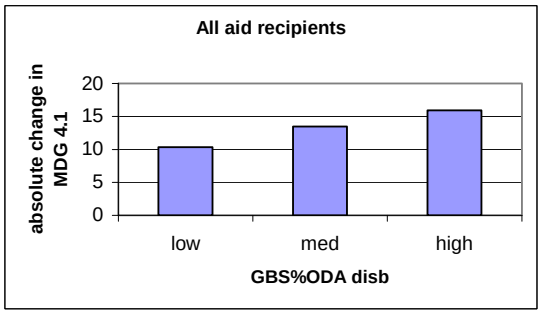
GBS/ODA disbursements | **GBS/GDP disbursements**

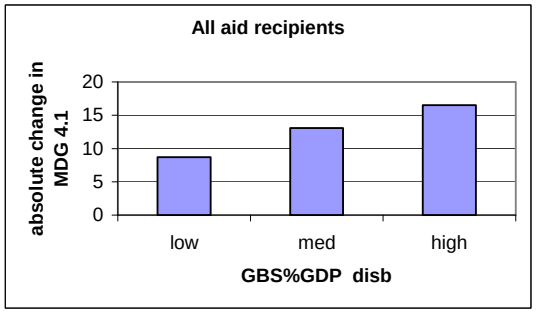


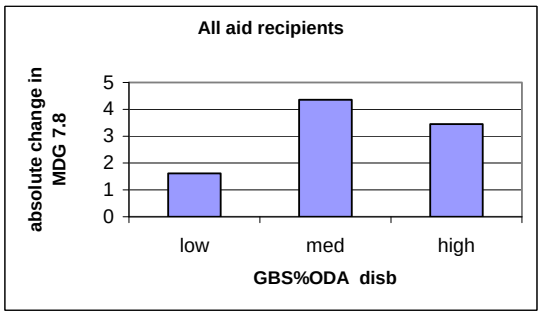


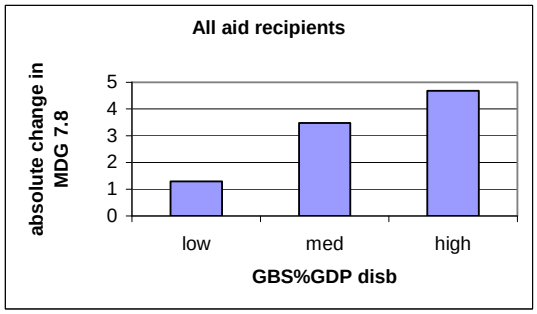


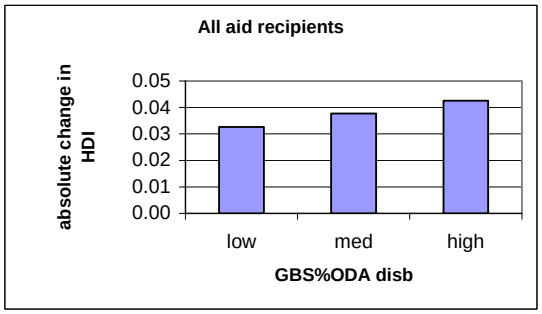


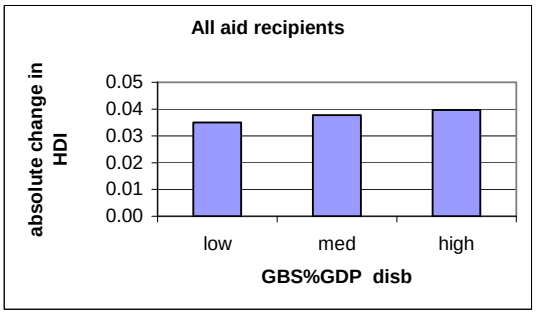












3.3 Further Analysis, 2002-2007

Results so far suggest that there *is* a positive association between levels of general budget support and performance against selected MDG indicators and the HDI, although we cannot confirm that budget support has caused this, as superior MDG performance may be due to other factors that also influence the provision of GBS. For example, significant correlations between levels of GBS and MDG performance may simply reflect that both are linked to the quality of the policy and institutional environment, or a country's level of income, or its aid dependency. In this section we therefore seek to control for such effects by further differentiating countries according to these characteristics.

Because this further reduces our sample sizes in some instances, and because of our earlier finding that the frequency distribution of GBS is quite skewed and that average levels of budget support in medium budget support countries are still quite low, we therefore simply divide our countries into two categories, in which "low" represent the bottom two thirds (labelled "L/M" in the tables) and "high" the top one third of budget support recipients[20]. We present results below for analysis focusing on all aid recipients. Details for our ACP and Africa samples are contained in Annex C, together with some additional tests not reported in full here.

We first report the main results for our "unfiltered" sample (Table 5a), showing how differences in MDG performance have been affected by classifying countries into just two GBS groups (cf results reported in Table 4). Correlations are of course unchanged, but the extent to which "high" GBS countries have outperformed "low" GBS countries is naturally reduced[21], and the formal t-tests of difference are similarly somewhat less significant (though still strong in most cases) than when using 3 GBS groups.

Table 5a: GBS disbursements (2002-07) & change in MDG indicators (ALL aid recipients, 2 GBS groups)

Filters ALL*	**GBS/ODA**					**GBS/GDP**				
Absolute change in	**L/M**	**H**	***Pearson/ correl coeff.***	***Spearman***	***T-test***	**L/M**	**H**	***Pearson/ correl coeff.***	***Spearman***	***T-test***
2.1: primary enrolment rate (% point)	1.4	5.4	0.01	0.13	0.08	1.2	6.4	0.00	0.21	0.02
- average GBS ratio in each category	*0.55%*	*9.03%*	*ns*	*ns*		*0.02%*	*1.27%*	*ns*	**	
3.1: education gender disparity ratio (% point)	1.5	4.7	0.30	0.36	0.00	1.0	5.1	0.23	0.44	0.00
- average GBS ratio in each category	*0.51%*	*8.18%*	***	***		*0.02%*	*1.67%*	***	***	
4.1: under 5 mortality rate (deaths/1000, + = reduction)	11.9	15.9	0.06	0.15	0.05	10.9	16.5	0.08	0.24	0.01
- average GBS ratio in each category	*0.43%*	*7.40%*	*ns*	*ns*		*0.02%*	*1.59%*	*ns*	***	
7.8: % of people using improved drinking water source	3.0	3.5	-0.07	0.11	0.31	2.4	4.7	-0.04	0.22	0.01
- average GBS ratio in each category	*0.57%*	*9.61%*	*ns*	*ns*		*0.03%*	*1.53%*	*ns*	**	
HDI: Human Development Index	0.035	0.043	0.29	0.22	0.07	0.036	0.040	0.24	0.17	0.22
- average GBS ratio in each category	*0.61%*	*6.47%*	***	**		*0.02%*	*0.95%*	***	**	

Note: (*) Region: all; Income: all; CPIA: no restrictions; Population: all
(1) full sample for indicators 2.1 and 3.1; (2) correlation coefficient levels of significance: ***=1%; **=5%; *=10%

[20] In some cases, it was simply *impossible* to retain a low/medium/high classification, because more than a third of the countries received zero budget support. Note: in some cases minor differences in results for "high" category countries have arisen as a result of accidentally changing the threshold from 66.6% to 66.7%. Some of the ACP correlation coefficients also differ slightly because in the additional analysis undertaken for this section, a few island countries (Anguilla, Tokelao, Turks and Caicos) that are not formally part of the ACP group were inadvertently included as ACP countries. This does not materially affect the main results or conclusions.

[21] Ranging between 1.2 and 3.8 times as big using this 2 group approach (for the GBS/ODA ratio), whereas the "H" countries in the 3 group categorisation of Table 4 were between 1.3 and 9.2 times bigger than the "L" countries.

Low income countries

Turning to our analysis of MDG performance differentiated by country income group (specifically to those classified by the World Bank as "low income countries", or LICs), we first note that LICs show a larger average improvement in our MDG/HDI indicators than aid recipients overall[22]. We then find that performance remains superior in high GBS LICs for all our MDG/HDI indicators except access to water. However, in some (but not all) cases the correlations have weakened[23], and the significance of these differences has declined in every case (Table 5b). Results for ACP countries and for Africa paint a similar picture (Annex C). This matters, because GBS flows are larger as a proportion of both ODA and GBS to LICs than to aid recipients overall.

Table 5b: GBS disbursements (2002-07) and change in MDG indicators: Low Income Countries

Filters ALL-LIC*	**GBS/ODA**					**GBS/GDP**				
Absolute change in	**L/M**	**H**	***Pearson/ correl coeff.***	***Spearman***	***T-test***	**L/M**	**H**	***Pearson/ correl coeff.***	***Spearman***	***T-test***
2.1: primary enrolment rate (% point)	9.9	15.6	0.44	0.46	0.12	9.9	15.6	0.47	0.43	0.12
- average GBS ratio in each category	*2.13%*	*9.43%*	**	**		*0.32%*	*2.18%*	***	**	
3.1: education gender disparity ratio (% point)	6.2	6.9	-0.01	0.08	0.35	6.1	7.0	0.21	0.18	0.32
- average GBS ratio in each category	*2.04%*	*8.90%*	*ns*	*ns*		*0.29%*	*2.08%*	*ns*	*ns*	
4.1: under 5 mortality rate (deaths/1000, + = reduction)	19.5	22.6	0.12	-0.15	0.31	20.4	23.2	0.11	-0.20	0.34
- average GBS ratio in each category	*1.54%*	*8.41%*	*ns*	*ns*		*0.26%*	*2.01%*	*ns*	*ns*	
7.8: % of people using improved drinking water source	5.5	4.4	-0.03	0.07	0.30	5.5	4.4	-0.18	0.00	0.30
- average GBS ratio in each category	*1.54%*	*8.41%*	*ns*	*ns*		*0.26%*	*2.01%*	*ns*	*ns*	
HDI: Human Development Index	0.041	0.047	0.28	0.30	0.27	0.040	0.050	0.23	0.28	0.09
- average GBS ratio in each category	*2.27%*	*9.05%*	*	**		*0.31%*	*2.02%*	*ns*	*ns*	

Note: (*) Region: all; Income: LIC; CPIA: no restrictions; Population: all
(1) full sample for indicators 2.1 and 3.1; (2) correlation coefficient levels of significance: ***=1%; **=5%; *=10%

Good policy countries

Regarding the policy and institutional environment, we use 2005 values of the World Bank's CPIA indicator to divide countries into high and low policy groups using the median value (for all 77 IDA countries rated) of 3.4[24]. When we focus our analysis on high CPIA countries, we find that high GBS recipients continue to outperform low GBS recipient countries in every indicator, for both GBS/ODA and for GBS/GDP, and in some cases significantly so (Table 5c). Again, results are similar when looking at the ACP and Africa samples, although here the differences in MDG 2.1 are both larger and more significant, while the differences in the child mortality indicator 4.1 are much larger (in favour of high GBS countries) even if not statistically significant (Annex C).

[22] With absolute performance levels being lower, the scope for improvement is higher. Indeed we find that average improvements in LICs/all aid recipients are 11.9/2.7 (MDG 2.1), 6.4/2.6 (MDG 3.1), 20.5/13.2 (MDG 4.1), 5.1/3.1 (MDG 7.8) and 0.043/0.038 (HDI) over the period 2002-2007.

[23] The main exception being for primary enrolment (MDG 2.1), although as noted previously, correlations in the "all aid recipient" sample appear to have been weakened – particularly for MDG 2.1 – by the inclusion of a large number of small states with populations of less than one million. See Annex C for a summary table that excludes such countries.

[24].We use the 2005 value (the first year the CPIA was published), because this was the mid-point of the 2002-2007 period being analysed. In two cases, Afghanistan and Timor-Leste, 2006 was used because 2005 figures were not available.

Table 5c: GBS disbursements (2002-07) and change in MDG indicators: High CPIA Countries

Filters ALL-H CPIA*	GBS/ODA					GBS/GDP				
Absolute change in	L/M	H	Pearson/ correl coeff.	Spearman	T-test	L/M	H	Pearson/ correl coeff.	Spearman	T-test
2.1: primary enrolment rate (% point)	4.4	8.8	0.44	0.33	0.20	2.2	13.5	0.48	0.33	0.01
- average GBS ratio in each category	*1.44%*	*8.58%*	***	**		*0.11%*	*1.60%*	***	**	
3.1: education gender disparity ratio (% point)	1.1	5.6	0.31	0.28	0.01	2.0	3.9	0.23	0.27	0.12
- average GBS ratio in each category	*1.33%*	*8.47%*	**	*ns*		*0.10%*	*1.58%*	*ns*	*ns*	
4.1: under 5 mortality rate (deaths/1000, + = reduction)	13.1	18.4	0.33	0.09	0.17	13.4	17.8	0.43	0.15	0.22
- average GBS ratio in each category	*1.22%*	*8.14%*	**	*ns*		*0.08%*	*1.48%*	***	*ns*	
7.8: % of people using improved drinking water source	3.7	4.9	0.19	0.23	0.27	3.7	4.9	0.03	0.24	0.27
- average GBS ratio in each category	*1.37%*	*8.71%*	*ns*	*ns*		*0.09%*	*1.65%*	*ns*	*ns*	
HDI: Human Development Index	0.035	0.051	0.48	0.48	0.01	0.035	0.051	0.43	0.32	0.01
- average GBS ratio in each category	*1.52%*	*8.73%*	***	***		*0.11%*	*1.69%*	**	**	

Note: (*) Region: all; Income: all; CPIA: high (>=3.4); Population: all
(1) full sample for indicators 2.1 and 3.1; (2) correlation coefficient levels of significance: ***=1%; **=5%; *=10%

Interestingly, when we look at low CPIA countries, we find that high GBS recipients continue to outperform low GBS recipients on indicators 2,1. 3.1 and 4.1, but underperform for indicators 7.8 and the HDI (though not significantly so). This is relevant because it does *not* appear to be the case that GBS systematically favours high policy countries[25].

If we further restrict our analysis to countries that are both low income *and* high CPIA, we find that high GBS recipients (whether as share of ODA or GDP) continue to significantly outperform low GBS recipient for indicator 2.1 and for the HDI, although correlations between GBS levels and MDG performance lose their significance for all indicators except the HDI (partly because the sample size is much reduced to only 14 countries: see Annex C).

Highly aided countries

Finally, when we only consider highly aided countries (with ODA at least 10% of GDP), we find that high GBS countries again outperform low GBS countries for virtually all indicators and measures of GBS[26], and significantly so in the case of indicators 3.1 and the HDI.

Table 5d: GBS disbursements (2002-07) and change in MDG indicators: Heavily Aided Countries

Filters ALL-H ODA*	GBS/ODA					GBS/GDP				
Absolute change in	L/M	H	Pearson/ correl coeff.	Spearman	T-test	L/M	H	Pearson/ correl coeff.	Spearman	T-test
2.1: primary enrolment rate (% point)	6.4	13.4	-0.02	0.34	0.11	7.4	11.5	-0.23	0.33	0.25
- average GBS ratio in each category	*2.39%*	*10.93%*	*ns*	**		*0.40%*	*3.15%*	*ns*	**	
3.1: education gender disparity ratio (% point)	3.7	8.0	0.35	0.35	0.03	4.1	7.2	0.17	0.35	0.09
- average GBS ratio in each category	*2.17%*	*13.30%*	**	**		*0.43%*	*4.13%*	*ns*	**	
4.1: under 5 mortality rate (deaths/1000, + = reduction)	16.9	21.2	-0.04	0.01	0.24	15.8	23.4	-0.06	0.01	0.10
- average GBS ratio in each category	*2.02%*	*12.83%*	*ns*	*ns*		*0.41%*	*3.94%*	*ns*	*ns*	
7.8: % of people using improved drinking water source	3.6	4.6	-0.10	0.05	0.29	4.2	3.4	-0.19	-0.10	0.33
- average GBS ratio in each category	*1.92%*	*12.03%*	*ns*	*ns*		*0.41%*	*3.37%*	*ns*	*ns*	
HDI: Human Development Index	0.037	0.053	*0.55*	*0.59*	0.03	0.037	0.053	*0.37*	*0.51*	0.03
- average GBS ratio in each category	*2.11%*	*9.23%*	***	***		*0.38%*	*2.10%*	**	***	

Note: (*) Region: all; Income: all; CPIA: no restrictions; Population: all; high ODA/GDP
(1) full sample for indicators 2.1 and 3.1; (2) correlation coefficient levels of significance: ***=1%; **=5%; *=10%

In summary, it remains the case that when we control for these factors (income level, policy environment, and aid dependency), high budget support recipients have on average still performed better than other countries, even if the significance of these results is weakened.

[25] Average GBS/ODA disbursements are somewhat higher in high policy countries than in low policy countries, but the difference is negligible when looking at GBS/GDP disbursements. However, analysing *weighted* averages suggests that GBS/ODA is almost twice as *high* in high policy countries (as expected), while GBS/GDP disbursements are almost twice as high in *low* policy countries (probably because budget support is much less widespread in middle income countries, which tend to have higher CPIA scores).

[26] The one exception being MDG indicator 7.8 using the GBS/GDP measure, though differences were not significant.

3.4 Changes in GBS and MDG performance, 1995-2007

In the final part of our analysis, we try and assess whether there has been any change in the rate of progress against the MDGs as levels of GBS have changed.

Methodology and results

Given that our data on GBS commitments and disbursements for the period 2002-07 are highly correlated, and given that our commitment results are broadly similar to those for disbursements[27], we then took advantage of the longer time period for which GBS commitment data are available by attempting some "before and after" calculations (so far just for GBS/ODA, only for the ACP sample). Specifically, we take (for each indicator) only those countries classified as "high" budget support recipients in our previous analysis (section 3.2), and compute the average GBS/ODA commitment ratio for an earlier period (the precise duration of which differs for each MDG/HDI indicator, depending on availability: see table 6 below). In most countries there had been a significant rise in levels of budget support, but in some there had been little change or even a fall. We then repeated the process outlined in section 3.2 above, calculating the change in each MDG/HDI indicator over the nearest possible period. The periods examined are summarised below:

Table 6: Time periods for before and after analysis

Indicator	**Indicator period**		**GBS period**	
	Before	After	Before	After
2.1	1991-2002	2002-2007	1995-2001	2002-2007
3.1	1991-2002	2002-2007	1995-2001	2002-2007
4.1	1995-2000	2000-2007	1995-2000	2000-2007
7.8	1995-2000	2000-2006	1995-2000	2000-2006
HDI	1991-2000	2000-2007	1995-2000	2000-2007

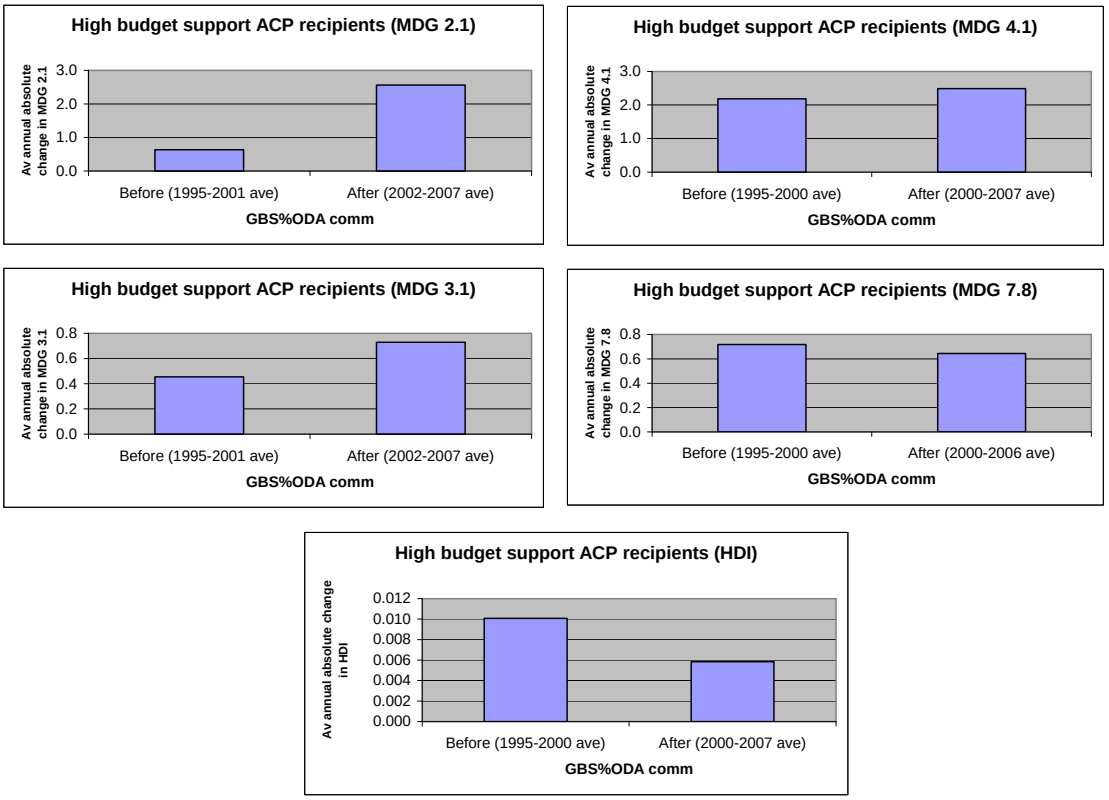
Changes in each MDG/HDI indicator series in the "before" and "after" sample periods were then annualised to allow for the different length of each sample period. For each indicator, we then constructed bar charts comparing the average annual change in the before and after periods. It should be noted however, that the choice of year dividing the "before" and "after" GBS periods is driven by data availability and forced to be equal for all countries in each indicator assessment, which may limit the reliability of the findings.

Results are presented in Figure 5, and show that for MDGs 2.1 (primary enrolment) and 3.1 (gender parity in education) there has been a substantial improvement in the annual rate of progress between the two periods in countries that became high budget support recipients. For MDG 4.1 (under five mortality) there has been a more modest improvement, and for 7.8 (access to water) a modest deterioration. Somewhat surprisingly (given the largely positive analysis of the HDI in the previous section), the rate of improvement in the HDI appears however to have slowed more significantly, although a comparison across the entire set of ACP countries for which data are available suggests that this was the case across all countries[28].

[27] Partly because the length of period examined – 6 years – is sufficient to iron out some of the volatility arising from multi-year GBS commitments being made and recorded in one year.

[28] Specifically, the rate of improvement in our high BS group fell from 2.8% to 1.4% per annum, whereas for the whole ACP sample it fell from 1.4% to 1% p.a. However, the sample is comparatively small (13 countries in the high BS group, and 32 ACP countries overall), with many countries missing data in the earlier period.

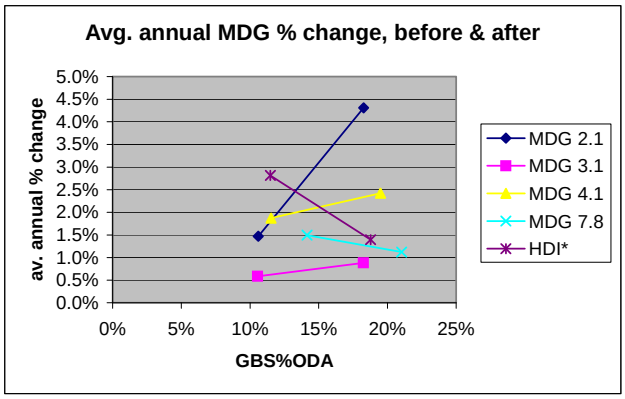
Fig 5: Comparison of MDG/HDI Performance, before and after c.2002 (High budget support ACP countries)



In order to show more clearly the link between these changes in indicator performance and *changes* in the level of GBS, we also plotted scatter diagrams showing (for all countries for which we have data in both periods) changes in the level of GBS commitments between the two periods on the horizontal axis, and (annual average) absolute changes in the performance of each indicator in each period on the vertical axis. Full details are presented in Annex D.

This analysis is presented in summary form in Figure 6 below, for which we averaged, for each indicator, the annual percentage change across our set of countries covered by the analysis (in both before and after periods), and plotted all five indicators in the same scatter diagram. In this case, annual average changes for each indicator are presented as *percentage* changes (because of the different units of measurement and hence scale of each).

Fig 6: MDG/HDI Performance, before and after c.2002
(High budget support ACP countries)



		Before	After
MDG 2.1	GBS%ODA	0.11	0.18
	% change	1.47%	4.31%
MDG 3.1	GBS%ODA	0.11	0.18
	% change	0.59%	0.89%
MDG 4.1	GBS%ODA	0.12	0.19
	% change	1.87%	2.42%
MDG 7.8	GBS%ODA	0.14	0.21
	% change	1.49%	1.12%
HDI	GBS%ODA	0.11	0.19
	% change	2.82%	1.40%

This chart also illustrates that as GBS shares of ODA have risen, so the rates of improvement have increased for MDGs 2.1, 3.1 and 4.1, but have slowed for MDG 7.8 and the HDI. Interpretation of these somewhat mixed results needs to recognize, however, that even sustaining any given annual percentage improvement becomes increasingly difficult as the absolute level of each indicator rises.

3.5 Options for further analysis

These findings point to a number of possible extensions to the analysis. For example, considering other MDG target indicators, incorporating estimates of *sector* budget support if possible, exploring whether a longer disbursement time series can be constructed based on the commitment data, taking account of the initial level of each indicator in each country being analysed, testing for lagged effects, and identifying country specific threshold points for undertaking the "before" and "after" analysis. The last two in particular may also shed some further light on the extent to which better MDG performance may be attributed to budget support. Nevertheless, a number of summary observations and conclusions can already be drawn.

4. Summary and Conclusions

This study has sought to fill a gap in the literature by analysing systematically whether there is any association between levels of general budget support and MDG performance in developing countries. In summary, we have found that high GBS recipients have performed better, often significantly so, in the four MDGs covering primary enrolment, gender parity in education, child mortality, and access to water, and also in terms of improvements in the Human Development Index, in the period 2002-2007. This finding applied across all ODA recipients, across ACP countries only, and (with the exception of child mortality) across Africa.

We also found that GBS levels were significantly correlated with performance against both education indicators and the HDI, but less so against child mortality or access to water (the two indicators where differences between high and low GBS recipients were least significant). This confirms that while there is generally a positive relationship between budget

support receipts and MDG performance, it is not always strong and other factors will also be important determinants of MDG performance[29].

Recognizing that a positive association between levels of GBS and MDG performance may arise because of other factors that influence both variables, we then focused our analysis just on countries with a good policy and institutional environment, on low income countries, and on heavily aided countries. We found that high GBS recipients have on average still performed better than other countries in every case (with the exception of water access in low income countries), even if the significance of these results is weakened.

Finally, we also found that for most indicators, higher levels of GBS in the period since 2002 are associated with more rapid rates of progress compared to the period 1995-2002, although this was not the case for access to water or for the HDI. A number of possible extensions to the analysis were identified.

In conclusion, it should be emphasised that this study has been an analysis of association, not causality, and it is clear that MDG performance is influenced by a whole range of factors. Further research would be necessary to assess the extent to which GBS may have contributed to better MDG performance, although the finding that high recipients still outperformed other countries once we control for the policy environment, income status and aid dependency is encouraging. More detailed case study work that explores why some high budget support recipients perform better than others would also well valuable. Nevertheless, the results overall do provide more comprehensive support for the view that countries receiving large amounts of budget support perform better than those receiving little or no budget support.

[29] In the case of child mortality and access to water, it may be that these two indicators are simply less responsive in the short term to government policy measures or changes in spending levels. For example regarding child mortality, levels of health spending are still generally below the minimum threshold judged necessary by health experts for there to be significant improvements in health outcomes. And the child (under 5) mortality ratio will by definition take 5 years to fully respond, something that our contemporaneous analysis of GBS flows and MDG performance cannot capture.

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List of Annex tables

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