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Abstract:

Aid proliferation and a lack of coordination are widely recognized as serious problems for aid effectiveness, and donors have repeatedly promised to tackle them, e.g. in the Paris Declaration in 2005 and the Accra Agenda for Action in 2008. In this paper, we employ geocoded aid data from Uganda to assess whether the country's donors have increasingly specialized and better coordinated their aid activities at the district and sector level. Our findings point in the opposite direction: over the period 2006-2013, aid of most major donors in Uganda became more fragmented, and the duplication of aid efforts increased. There is tentative evidence that donors were more active in poorer parts of the country, which would provide some justification for clustered aid activities.

Keywords: Aid fragmentation, donor coordination, Uganda.

JEL classification: F35

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1.   Introduction

When it comes to rendering foreign aid more effective, improved donor coordination is routinely mentioned as one important pillar. This is because aid proliferation and donor fragmentation impose high transaction costs on the recipient countries, especially the poorest among them, with multiple donor missions, different sets of policy conditions and inconsistent reporting requirements absorbing scarce administrative resources (Acharya et al. 2006). Donors have promised in repeated official declarations to reduce the fragmentation of aid and engage in stronger coordination. In the Paris Declaration on Aid Effectiveness of 2005, donors committed themselves to a division of labor based on their respective comparative advantage at sector or country level (OECD 2005). In the subsequent Accra Agenda for Action of 2008, they agreed to work together to reduce aid fragmentation not only across developing countries but also within countries (OECD 2008). According to the OECD's Working Party on Aid Effectiveness, within-country division of labor among donors was going to be achieved by concentrating resources on a restricted number of sectors and areas and by eliminating duplication of aid efforts (OECD 2009).

The evidence so far points to a wide gap between donors' rhetoric and actual aid allocations. In a cross-country context, Nunnenkamp et al. (2013) find that aid fragmentation persisted after the Paris Declaration and coordination among donors even weakened. Davis and Klasen (2015) show that bilateral donors respond to aid flows from other donor countries by increasing their own aid funds, giving rise to the emergence of "aid darlings" and "aid orphans". Evidence at the sub-national level is limited because regional aid data are only available for a few recipient countries, mainly through the comprehensive geocoding of project-level information by the AidData initiative (Findley et al. 2011). Covering Malawi's major bilateral and multilateral donors, Nunnenkamp et al. (2015) do not find compelling evidence for increased aid specialization after the Paris Declaration, while the duplication of

aid efforts may even have risen. Öhler (2013) uses project-related aid data for various donors - including non-DAC donors such as China and non-governmental organizations (NGOs) - that were active in Cambodia over the period 2000-2007 and finds limited donor coordination, in particular among bilateral donors.

In this paper, we address the regional and sectoral aid allocation in Uganda. Uganda is an interesting case to study due to its status as an "aid darling" until recently, which renders a within-country division of labor among donors particularly important. Geocoded aid data for Uganda are available from 1996 to 2013, but our analysis is mainly restricted to the period 2006-2013. A comparison with the period before the Paris Declaration is impaired by the substantial change in aid relations that took place after 2005 in response to a deteriorating political situation, including president Museveni's announcement of a candidacy for an unconstitutional third term in office and increasing human rights abuses. We consider two sub-periods, 2006-2009 and 2010-2013, in order to gain at least tentative insights on whether the behavior of donors has changed recently.

The remainder of the paper is structured as follows. In Section 2, we describe the aid dataset as well as the approach employed in the empirical analysis. In Sections 3 and 4, we present our empirical findings on aid fragmentation and the duplication of aid efforts in Uganda, respectively. In the latter section, we additionally take up the point made by Powell and Findlay (2012) that clustering of donors may be justified if it takes place in poor regions. Specifically, we assess whether donors are more likely to be active in regions with lower levels of educational attainment and higher poverty incidence. We find that over the period 2006-2013 aid of most major donors in Uganda became more fragmented, and the duplication of aid efforts increased. There is tentative evidence that donors were more active in poorer parts of the country. Section 5 concludes.

2. Data and approach

We obtain the data on aid activities at the regional and sectoral level in Uganda from AidData's geocoding of project-specific information.[1] The dataset covers 569 projects with 2458 locations in Uganda and effective start dates during the 1996-2013 period.[2] The precision of AidData's geocoding differs across projects so that we lose observations because the available geocoding corresponds to areas that are less precise than the district level.[3]

The annual number of new projects started fluctuated between 10 and 20 during the 1996-2006 period, without revealing any trend. Subsequently, the number of new projects increased considerably: the number peaked at 76 projects started in 2010, and then fell back to an annual average of 39 projects in 2011-2013. The effective start date is missing for 90 projects (16 percent of all projects). These observations are lost for the analysis in Sections 3 and 4 below, while the stylized facts reported in the remainder of this section include all 569 projects.

According to AidData, 38 donors were active in Uganda during the period of observation. In addition to projects financed by just one (bilateral or multilateral) donor, the database includes 36 projects jointly financed by two or more donors. The International Development Association (IDA) was most often involved in joint projects with other donors (13 times), followed by Denmark (9), the European Union (8) and Norway (8). The distribution of joint projects over time does not reveal any trend. Specifically, the number of joint projects has not

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[1] The data are available from: http://aiddata.org/geocoded-datasets. Note that the subsequent analysis is based on the preliminary release of the dataset in January 2014.

[2] An updated version of the database was released in March 2015 after we started working on aid proliferation and donor coordination in Uganda. The updated database covers the 1978-2014 period. However, very few projects have effective start dates in 2014 and until the mid-1990s. Moreover, while the total number of projects is now given as 1709, the number of project-related locations (2470) for geocoded projects is almost the same as for the preliminary release (2458). For details see the file README which is part of AidData's data release.

[3] Several projects correspond to the entire country; this applies especially to projects providing general budget support (see also below). Some other projects correspond to one of the four administrative regions in Uganda, or to estimated coordinates of "a large feature such as rivers, boundaries, or national parks." However, almost 90 percent of all 2458 project-related locations have precision codes that correspond to a district or to a specific part of a district.

increased in more recent years. Hence, it can be ruled out that aid efforts have increasingly been coordinated by engaging in joint projects. Apart from jointly financed projects, a small sub-set of ten major donors accounted for 82 percent of all remaining projects. Japan ranged at the top with 86 projects, followed by Norway (69), the United Kingdom (60), and the European Union (59). The top 10 donors on which we focus in Sections 3 and 4 below also include: Austria (35), China (32), Denmark (31), IDA (27), the United States (20), and the United Nations Development Program (UNDP: 20).[4] The top 10 group is thus fairly heterogeneous. In addition to large bilateral DAC donors (Japan, UK and US), it surprisingly includes small bilateral DAC donors (notably Austria), an important and much debated non-DAC donor (China), and some multilateral donors.

We use the database from AidData to address two related questions: First, we assess whether major bilateral and multilateral donors avoid fragmented aid relations with Uganda by focusing on particular regions within this recipient country and by specializing in specific sectors. Second, we assess whether the major donors coordinate their aid activities in Uganda with each other. This two-step procedure takes into account that the need for coordination among donors depends on the degree to which each individual donor is specialized. More precisely, donor coordination would be a less urgent concern if major donors acted unilaterally to reduce aid fragmentation and specialize along the regional and sectoral dimensions.

In both steps of our analysis, we consider aid activities along two dimensions: regional and sectoral. Regional aid activities in Uganda relate to the country's 111 districts plus the capital city of Kampala.[5] It should be noted that the number of districts has doubled from 56 since the Census year 2002, with the most recent change in 2010. Fortunately, the changing number

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[4] Ireland also has 20 projects; this donor is excluded from the analysis in Sections 3 and 4 as the effective start date is given for just seven of its 20 projects.
[5] However, Butambala is not listed as a separate district by AidData so that we have 111 observations including Kampala. Butambala has become a separate district only in July 2010.

of districts does not impose any limitations for our analysis as the project-related database of AidData uses the most recent delineation of districts whenever aid activities are broken down to the district level. As detailed in Section 4 below, we proxy the need for aid at the district level by school enrolment rates since poverty data are only available at the higher level of Uganda's four administrative regions. It is interesting to note, however, that the distribution of all project locations listed by AidData suggests that the donors' location choices across these four regions are poverty oriented. Specifically, the northern region with the highest poverty headcount hosts more project locations than the central and western regions taken together where the poverty headcount is considerably lower.

At the same time, the database provides two different sectoral classifications of aid projects: (i) the widely-known purpose codes from Aid Data and the OECD-DAC's Creditor Reporting System (CRS) and (ii) a somewhat broader classification of 17 sectors by the Aid Management Platform, maintained by Uganda's Ministry of Finance. We use the latter classification in the following since the principally superior purpose codes are missing for various projects. We focus on the following ten major sectors in the empirical analysis of Sections 3 and 4 (number of projects in parentheses): health (74), education (73), social development (73), water and environment (49), accountability (31), agriculture (29), energy and mineral development (29), public sector management (29), works and transport (26), and justice, law and order (22). Taken together these ten sectors account for 76 percent of all 569 projects.

Almost all remaining projects (21 percent) are classified as general budget support. These are typically national projects, i.e., a regional disaggregation of general budget support is not available. Importantly, about 80 percent of all projects providing general budget support have start dates prior to 2006. Among the top 10 donors listed above, it was mainly the United

Kingdom who had provided general budget support to Uganda until 2005, but subsequently stopped doing so as a response to the worsening political situation mentioned above.

In addition to AidData's project-related information, we draw on two supplementary sources for our empirical analysis below. We obtain overall amounts of aid commitments by major donors to Uganda from the OECD's International Development Statistics (IDS).[6] We prefer this source to calculate the degree of aid fragmentation in Section 3 since project-specific aid commitments are often missing from AidData. Furthermore, we obtain school enrolment rates and population figures at the district level from Uganda's Bureau of Statistics (2013) in order to assess whether donors cluster in needier districts (see Section 4 for details).

3.   Aid fragmentation

In Table 1, we show how the regional and sectoral specialization of the ten major bilateral and multilateral donors in Uganda changed over time. As noted in the introduction, our database covers the period 1996-2013, but the time spans before and after the Paris Declaration are not easily comparable because of the changing aid relations – most notably a drastic decline in general budget support – in response to Uganda's worsening political situation around 2005. We therefore focus our analysis on the sub-period 2006-2013, but still compare this sub-period with the longer period 1996-2013 in order to obtain at least a rough indication of changes in donor behavior over the whole sample period.

If donors specialized more after 2005, the number of districts and sectors in which they were active should be significantly lower in 2006-2013 as compared to 1996-2013.[7] This is clearly the case for Denmark, which phased out its engagement in Uganda after 2005. On average,

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[6] The data are available from: http://stats.oecd.org/index.aspx?DataSetCode=CRS1 (accessed: April 2015).
[7] Note that the number of districts and sectors with donor activity cannot be higher in 2006-2013 than in 1996-2013.

however, there are hardly any differences between the shorter and longer period. For 8 out of 10 donors at the sector level and for 5 out of 10 donors at the district level the number of activities is exactly the same in both periods, which rather points to rising aid proliferation.

When comparing the two sub-periods 2006-2009 and 2010-2013, a clear tendency towards more fragmented aid can be observed. This applies especially to the regional dimension, with 7 out of the 10 major donors spreading their aid activities across a markedly higher number of districts in the most recent sub-period. The United States constitutes an extreme case: the number of districts and sectors in which it was active increased by a factor of four. These findings suggest that donors did not act in accordance with the recommendation of the Accra Agenda to concentrate resources within countries. Furthermore, while Uganda's political problems led to a withdrawal of budget support, this may have been compensated at least partly by stronger donor involvement in project aid. Several donors, including Japan and the United States, started to run projects on a significant scale only after 2005.

As concerns the pattern of specialization across donors, Table 1 shows that over the period under consideration the EU, IDA, Japan and the United States were active in more than 60 districts, whereas Norway and Denmark covered only 18 districts. Such variations may at least partly reflect the different size of donors. In Table 2, we take this into account by defining aid fragmentation as the number of district-sector combinations in which the donor was active in the period under consideration per million US-dollars of overall aid commitments to Uganda during the same period.[8] Applying this relative measure changes the ranking of donors considerably. Now, UNDP turns out to be the least specialized donor. In terms of overall aid commitments – $ 25 million in 2010-13 – UNDP was by far the smallest

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[8] Note that this measure does not reflect the size of individual projects. We count the number of district-sector combinations in which a donor was active throughout the period under consideration, irrespective of the number of projects.

donor among the top 9.[9] Yet, UNDP was active in 33 district-sector combinations in 2010-13, compared to 39 for the UK, which provided $ 433 million of aid in 2010-13.

Results based on the relative measure of aid fragmentation corroborate the previous findings regarding changes over time. Between 2006-2009 and 2010-2013, fragmentation rose significantly for 6 out of Uganda's 9 major donors. It fell only for Denmark, which did not start any new project in the country in 2010-2013. Overall, the recent changes in aid fragmentation were quantitatively important. In 2006-2009, $100 million of aid by the top 9 donors was spread over less than 4 district-sector combinations. This figure more than doubled to 8.5 district-sector combinations per $100 million of aid in 2010-2013.

4.   Duplication of aid efforts

With higher levels of aid fragmentation, it becomes all the more important to avoid costly duplication of aid efforts. To assess whether donor coordination in Uganda has improved over time, we separately look at the sectoral and regional dimension. Table 3 shows the number of donors among the top 10 donors which were active in the 10 main aid-receiving sectors. Comparing 2006-2013 with the considerably longer period 1996-2013, we should observe less duplication. Yet, in the majority of sectors (6 out of 10) the number of active donors is exactly the same during the shorter period of major interest. This indicates that duplication of aid efforts at the sector level is a recent phenomenon.

Distinguishing between the two sub-periods after 2005 strengthens the impression that the duplication of aid efforts at the sector level rather increased in the more recent past. The number of donors is higher in the second sub-period in 6 sectors, and lower in just two sectors (education and health). The exceptionally high number of donors shown to be engaged in the

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[9] Of the top 10 donors, China is not included in this ranking due to missing data on overall aid commitments from OECD, IDS.

health sector over the period 2006-2009 can be explained by severe flooding in 2007, which led to human suffering on a significant scale.[10]

At the district level, indications of a recent rise in the duplication of aid efforts are even stronger. Contrary to what one would expect from donor pledges of intensified coordination, Table 4 shows that in 90 out of 111 districts the number of active top 10 donors was exactly the same in 2006-2013 as in the considerably longer period 1996-2013. What is more, 77 districts had to deal with a larger number of donors in 2010-2013 as compared to 2006-2009. As detailed in the Appendix Table, several districts experienced a tremendous increase in donor presence between the two recent sub-periods, e.g. from 1 to 5 in Amolatar and Wakiso or from 2 to 7 in Amura, Gulu and Pader.

Do donors cluster in regions where need is highest?

As argued by Powell and Findlay (2012), the clustering of various donors in specific regions may be justified if those regions are characterized by particularly pressing need for aid. Therefore, we assess at least tentatively whether the above evidence on the number of active donors is correlated with varying need. Lacking data on broader indicators of need at the district level (such as average per-capita incomes or poverty headcounts), we use primary and secondary school enrolment rates – assuming that lower school enrolment is typically associated with lower incomes and more pressing poverty.[11] We would expect school enrolment to be correlated negatively with the number of active donors if the clustering of donors is needs based. We obtain the correlation between school enrolment and the number of

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[10] See http://www.irinnews.org/report/74765/uganda-flooding-in-uganda-can-natural-disasters-be-prevented.
[11] Note that we use gross school enrolment data for the year 2010 since earlier data are unavailable for various districts. Even though it can reasonably be assumed that enrolment rates are relatively stable over time, this clearly implies that our simple regressions cannot identify any causal relations.

active donors from a simple regression which controls for the size of the population of districts.[12] Obviously, more donors are likely to be active in more populated districts.

Indeed, the regressions reveal that the number of active donors at the district level is significantly and positively correlated with population (Table 5). This holds independent of whether we consider primary or secondary school enrolment as the indicator of need. Moreover, the correlation with population is strongly positive for the 2006-2013 period as a whole as well as for the two sub-periods, 2006-2009 and 2010-2013.[13] By contrast, we find hardly any evidence for needs-based clustering of donors at the district level. The correlation of the number of active donors with primary school enrolment is almost zero and statistically insignificant for all (sub-) periods under consideration. Secondary school enrolment is negatively correlated with the number of active donors, as one would expect for needs-based clustering, but only for the first sub-period 2006-2009. In other words, this result cannot explain why the number of active donors increased in various districts in the most recent past (as shown above in Table 4 and in the Appendix table).

The low R²s of the regressions in Table 5 call for refined analyses to better explain the location choices of donors in Uganda. As a first preliminary step in this direction, we extend the specification of the regression equation by including three dummy variables. We set these dummy variables equal to one for districts located in Uganda's administrative regions, i.e., 'Western', 'Eastern' and 'Northern', respectively (and to zero for all districts not located in the specific administrative region).[14] As noted in Section 2, data available for the administrative regions show that the poverty headcount is highest in the north, followed by the east, and lowest in the central region. By considering 'Central' as the benchmark, positive

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[12] Population data refer to the Census year 2002.
[13] We also ran the regressions for the 1996-2013 period; these results are not reported as we are mainly interested in the more recent past.
[14] All districts located in the administrative region 'Central' represent the benchmark.

coefficients on the dummy variables indicate that Uganda's top 10 donors cluster in districts that belong to administrative regions with higher poverty headcounts.

Indeed, the coefficients on 'Northern' are particularly high and consistently significant at the one percent level (Table 6). Likewise, donors tend to cluster in the east where the poverty headcount is second highest, though the clustering appears to be less pronounced than in the north (in terms of statistical significance and coefficient size). The picture is more ambiguous for the west whose poverty headcount differs less from the benchmark. At the same time, the inclusion of the regional dummy variables has the effect that the evidence on school enrolment as an indicator of need at the district level weakens further, or even turns counterintuitive.[15]All in all, these ambiguous findings leave important issues to future research once more and better data on the need for aid become available at the district level.

Finally, we performed a robustness test to assess whether the results obtained for all top 10 donors are sensitive to the exclusion of a particular donor.[16] The results with the extended specification in Table 6 prove to be surprisingly robust. In particular, the coefficients on secondary school enrolment as our indicator of need at the district level are not affected when excluding one of the ten donors at a time. Moreover, the results for the regional dummy variables closely resemble the pattern shown before. The only notable change is that the dummy for 'Eastern' loses its statistical significance when excluding Japan, the United Kingdom or the United States. This indicates that the clustering of donors in this region, which ranks second after the northern region in terms of poverty headcount, is mainly due to the location choices of these three bilateral donors.

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[15] Some significantly positive coefficients on school enrolment suggest that the number of active donors is lower in districts with more (educational) need.
[16] In the robustness test, we use secondary school enrolment as the indicator of need at the district level. Detailed results are not shown for the sake of brevity, but they are available from the authors on request.

5.   Summary

This paper assesses for the case of Uganda whether bilateral and multilateral donors have increasingly specialized and coordinated their aid activities at the district and sector level over the period 1996-2013. Using geocoded aid data, we find that aid of most major donors in Uganda became more fragmented, and the duplication of aid efforts increased. There is tentative evidence that donors were more active in poorer parts of the country, which would provide some justification for clustered aid activities.

Our evidence for Uganda broadly corroborates what previous studies found at the national and sub-national level of recipient countries, further strengthening the conclusion of a wide gap between the donors' words and deeds when it comes to more specialization and better coordination of aid activities. The Ugandan case additionally illustrates that worsening governance in recipient countries is not necessarily associated with less aid proliferation, and may even lead to more aid proliferation if budget aid is scaled back and project aid rises instead. Whether this holds in general or is specific to Uganda would have to be verified in further country studies.

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Table 1 – Regional and sectoral focus of top 10 donors in Uganda, 1996-2013

	Districts				Sectors			
	1996-2013	2006-2013	2006-2009	2010-2013	1996-2013	2006-2013	2006-2009	2010-2013
Austria	22	22	12	17	4	4	4	3
China	6	4	3	2	7	5	5	3
Denmark	18	4	4	0	3	1	1	0
EU	65	64	30	49	7	7	6	5
IDA	78	75	28	59	5	5	2	4
Japan	66	66	31	55	8	8	5	8
Norway	18	16	5	11	3	3	1	2
UK	47	47	46	39	3	3	2	2
UNDP	32	32	7	32	3	3	1	3
US	73	73	17	69	4	4	1	4
Average 10 donors	42.5	40.3	18.3	33.3	4.7	4.3	2.8	3.4

Note: Number of districts and sectors in which the donor was active in the period under consideration.
Source: AidData; own calculations

Table 2 – Aid fragmentation of major donors in Uganda, 1996-2013

	1996-2013	2006-2013	2006-2009	2010-2013
Austria	0.158	0.274	0.297	0.359
Denmark	0.021	0.008	0.021	0
EU	0.050	0.079	0.048	0.154
IDA	0.025	0.036	0.019	0.067
Japan	0.118	0.161	0.179	0.180
Norway	0.021	0.025	0.018	0.031
UK	0.026	0.051	0.087	0.090
UNDP	0.433	0.514	0.178	1.323
US	0.024	0.032	0.011	0.055
Average 9 donors	0.036	0.052	0.037	0.085

Notes: Aid fragmentation is defined as number of district-sector combinations in which the donor was active in the period under consideration per million of overall aid commitments to Uganda during the same period. The average for the nine donors is weighted by their overall aid commitments to Uganda in the period under consideration. China not listed due to missing data on overall aid commitments from OECD, IDS.
Source: AidData; OECD, IDS; own calculations

Table 3 – Duplication of aid efforts at the sector level: Number of active donors, 1996-2013

	1996-2013	2006-2013	2006-2009	2010-2013
Accountability	6	5	2	4
Agriculture	4	4	2	4
Education	3	3	3	2
Energy, mineral development	4	3	0	3
Health	7	7	7	2
Justice, law & order	2	2	2	2
Public sector management	4	3	1	3
Social development	6	6	3	5
Water and environment	6	6	5	5
Works and transport	5	4	3	4

Note: Based on the top 10 donors and 10 major sectors listed in Section 2.
Source: AidData; own calculations

Table 4 – Duplication of aid efforts at the district level: Number of districts where aid duplication decreased or increased over time

Number of active top 10 donors …	2006-2013 vs. 1996-2013	2010-2013 vs. 2006-2009
… reduced by more than two	0	3
… reduced by one or two	21	8
… unchanged	90	23
… increased by one or two	-	49
… increased by more than two	-	28

Note: Based on Appendix Table.
Source: AidData; own calculations

Table 5 – Regression results: Number of active donors (among top 10 donors) at district level as dependent variable

	2006-2013		2006-2009		2010-2013	
	(1)	(2)	(3)	(4)	(5)	(6)
Primary school enrolment	0.002		-0.004		0.005	
	(0.004)		(0.003)		(0.005)	
Secondary school enrolment		-0.018		-0.022**		-0.004
		(0.014)		(0.009)		(0.014)
Ln(population)	0.67**	0.76***	0.48***	0.65***	0.62**	0.59**
	(0.27)	(0.28)	(0.17)	(0.17)	(0.28)	(0.29)
Constant	-4.72	-5.11	-3.65*	-5.64***	-5.21	-4.06
	(3.40)	(3.25)	(2.16)	(2.03)	(3.53)	(3.41)
R^2 adjusted	0.04	0.05	0.08	0.12	0.03	0.02
Observations	111	111	111	111	111	111

Notes: Standard errors in parentheses; ***, **, * significant at one, five, ten percent level, respectively.
Source: AidData; Uganda Bureau of Statistics; own calculations

Table 6 – Regression results: Extended specification with regional dummies

	2006-2013		2006-2009		2010-2013	
	(1)	(2)	(3)	(4)	(5)	(6)
Primary school enrolment	0.005 (0.004)		-0.002 (0.003)		0.007* (0.004)	
Secondary school enrolment		0.031** (0.012)		-0.001 (0.009)		0.042*** (0.013)
Ln(population)	1.02*** (0.22)	0.82*** (0.22)	0.61*** (0.15)	0.64*** (0.16)	1.02*** (0.23)	0.74*** (0.23)
Northern	3.00*** (0.39)	3.43*** (0.42)	1.54*** (0.28)	1.53*** (0.31)	2.79*** (0.41)	3.37*** (0.44)
Eastern	0.73* (0.39)	0.79** (0.37)	0.60** (0.28)	0.56** (0.27)	0.77* (0.41)	0.86** (0.39)
Western	0.94** (0.40)	1.12*** (0.40)	0.98*** (0.28)	0.98*** (0.29)	0.06 (0.42)	0.30 (0.41)
Constant	-10.60*** (2.78)	-8.46*** (2.59)	-6.28*** (1.98)	-6.90*** (1.89)	-11.23*** (2.92)	-8.21*** (2.69)
R^2 adjusted	0.40	0.43	0.28	0.27	0.38	0.42
Observations	111	111	111	111	111	111

Notes: Standard errors in parentheses; ***, **, * significant at one, five, ten percent level, respectively.
Source: AidData; Uganda Bureau of Statistics; own calculations

Appendix Table –Duplication of aid efforts at the district level: Number of active donors, 1996-2013

	1996-2013	2006-2013	2006-2009	2010-2013		1996-2013	2006-2013	2006-2009	2010-2013
Abim	5	5	3	4	Koboko	4	4	1	4
Adjumani	2	2	1	2	Kole	5	5	2	4
Agago	5	5	1	5	Kotido	7	6	3	5
Alebtong	5	5	3	4	Kumi	3	2	1	2
Amolatar	5	5	1	5	Kween	1	1	0	1
Amudat	3	3	2	2	Kyankwanzi	1	1	1	0
Amuria	5	5	3	4	Kyegegwa	4	4	3	1
Amuru	7	7	2	7	Kyenjojo	3	3	3	0
Apac	7	7	3	6	Lamwo	5	5	1	5
Arua	5	5	3	5	Lira	9	8	6	7
Budaka	5	5	2	5	Luuka	2	2	2	2
Bududa	3	3	0	3	Luwero	1	1	0	1
Bugiri	3	3	1	2	Lwengo	0	0	0	0
Buhweju	3	3	2	1	Lyantonde	2	2	1	1
Buikwe	2	2	0	2	Manafwa	3	3	0	3
Bukedea	4	4	1	4	Maracha	3	3	1	3
Bukomansimbi	1	1	1	0	Masaka	4	4	1	4
Bukwo	4	4	1	4	Masindi	5	5	2	5
Bulambuli	1	1	0	1	Mayuge	4	3	1	3
Buliisa	4	4	1	4	Mbale	7	6	4	5
Bundibugyo	3	3	3	0	Mbarara	5	5	3	4
Bushenyi	4	3	1	3	Mitooma	3	3	2	2
Busia	5	5	1	5	Mityana	1	1	0	1
Butaleja	4	4	2	3	Moroto	8	7	4	5
Buvuma	0	0	0	0	Moyo	4	4	1	4
Buyende	1	1	1	1	Mpigi	2	2	0	2
Dokolo	6	6	2	6	Mubende	3	3	1	2
Gomba	1	1	0	1	Mukono	4	4	2	3
Gulu	9	7	2	7	Nakapiripirit	7	6	3	5
Hoima	5	5	3	3	Nakaseke	2	2	0	2
Ibanda	3	3	1	3	Nakasongola	4	3	1	2
Iganga	4	4	3	3	Namayingo	2	2	1	1
Isingiro	3	3	1	3	Namutumba	2	2	2	2
Jinja	4	3	1	3	Napak	4	4	2	3
Kaabong	6	6	3	5	Nebbi	5	5	3	4
Kabale	4	4	3	4	Ngora	0	0	0	0
Kabarole	4	4	3	2	Ntoroko	1	1	1	0
Kaberamaido	4	4	1	4	Ntungamo	4	4	1	4
Kalangala	1	1	0	1	Nwoya	5	5	0	5
Kaliro	3	3	1	3	Otuke	4	4	2	2
Kalungu	2	2	0	2	Oyam	6	6	3	6
Kampala	9	9	4	8	Pader	8	7	2	7
Kamuli	4	3	1	2	Pallisa	5	5	3	3
Kamwenge	4	4	2	2	Rakai	5	4	3	4
Kanungu	4	4	3	2	Rubirizi	3	3	1	2
Kapchorwa	5	4	1	4	Rukungiri	2	2	1	1
Kasese	5	4	2	2	Serere	0	0	0	0
Katakwi	5	4	2	4	Sheema	3	3	2	1
Kayunga	3	2	1	2	Sironko	5	4	1	4
Kibaale	4	4	2	2	Soroti	6	5	3	5
Kiboga	3	3	2	2	Ssembabule	4	4	2	3
Kibuku	2	2	1	2	Tororo	4	4	3	3
Kiruhura	3	3	2	2	Wakiso	5	5	1	5
Kiryandongo	2	2	0	2	Yumbe	3	3	2	3
Kisoro	4	4	2	2	Zombo	3	3	3	0
Kitgum	8	7	3	7					

Note: Based on top 10 donors listed in Section 2.
Source: AidData; own calculations.