

**OECD POLICY DIALOGUE  
WITH NON-MEMBERS ON  
AID FOR TRADE:  
FROM POLICY TO PRACTICE**

**UGANDA: AID AND TRADE**

ULRIKA STAVLÖTA <sup>a</sup>, JUSTINE NANNYONJO <sup>b</sup>, JAN PETTERSSON <sup>c</sup>, LARS  
JOHANSSON <sup>d</sup>

Monday 6 and Tuesday 7 November 2006

The Ritz-Carlton Doha Hotel  
Doha, Qatar

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<sup>a</sup> Swedish Institute of European Policy Studies (Sieps), Stockholm University, [ulrika.stavlot@sieps.se](mailto:ulrika.stavlot@sieps.se).

<sup>b</sup> Bank of Uganda, [justinenannyonjo@yahoo.co.uk](mailto:justinenannyonjo@yahoo.co.uk).

<sup>c</sup> Department of Economics, Stockholm University, [jan.pettersson@ne.su.se](mailto:jan.pettersson@ne.su.se).

<sup>d</sup> Department of Economics, Stockholm University, [lj@ne.su.se](mailto:lj@ne.su.se).

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## Acknowledgements

We thank Michael Atingi-Ego, Martina Björkman, Harry Flam, Torgny Holmgren, William Kalema, Ari Kokko, Paul Mpuga, Jakob Svensson, Helena Tang, the OECD Development Centre and our local partner in Uganda; the Economic Policy Research Center (EPRC).

## Introduction

Uganda has been regarded as a showcase after the extended period of macroeconomic stability and strong economic growth that followed the extensive reform program beginning in 1987. However, the recent slow-down in growth has highlighted the extent to which growth hitherto has been driven by discrete events and domestic (to a large extent aid-financed) consumption. Since strong growth is key to reducing poverty, as evidenced by international experience, the need to shift to long-term sustainable export- and investment-induced growth has been recognized.<sup>1</sup>

Being qualified for the Heavily Indebted Poor Countries Initiative, Uganda has experienced a surge in aid inflow over the last decade, as donors began supporting the achievements of the Millennium Development Goals. This growth in aid has raised concerns among practitioners and academics that unless trade policy is properly aligned, aid could have perverse effects on exports. Evidently, the coherence and impact of aid and trade policies of rich-countries as well as domestic policies play a critical role for development and poverty in Uganda.

The Uganda case study has been prepared under the project Policy Coherence for Development, established by the OECD Development Centre. The project addresses the joint impact on growth and poverty reduction of rich-country policies in poor countries to contribute to informed discussions on key policy issues and to assist in monitoring performance under agreed international commitments to development.

The objective of the Uganda case study is to explore to what extent aid and trade contribute to growth and poverty reduction in Uganda, in terms of separate effects as well as the interaction between policy vectors. The case study will focus on the macroeconomic interdependence of aid and trade. A modified gravity approach is employed to assess the effects of donor aid on Uganda's bilateral export flows. The main result is that aid has a statistically significant though economically small effect on Uganda-donor trade. In addition to providing a concrete analysis of the impacts of aid policies on Ugandan trade, we also hope that this study could give a methodological contribution for monitoring and evaluating policy coherence.

To avoid duplication of efforts, the coverage of the case study complements those issues that are being addressed in the Diagnostic Trade Integration Study (DTIS) prepared under the Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries (IF) dated May 2006. The Uganda case study will also take into account a large amount of existing trade- and aid-related studies in Uganda and will summarize and use relevant results.

The next section provides a macro summary that outlines recent economic performance and reviews current trends in Uganda's trade performance and use of aid flows. This is followed by a section that reviews Uganda's foreign-trade situation including an identification of the principal constraints faced by Ugandan exporters. The section also includes a review of the scope and impact of aid in Uganda and a discussion of aid impact in terms of growth and poverty reduction. It concludes with a summary of the recent debate on Dutch disease effects

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<sup>1</sup> DTIS (2006).

in Uganda. The third section provides an empirical analysis of the relationship between aid and trade flows. Concluding remarks are found in the fourth section.

## Context and background

### *Macroeconomic summary*

Uganda's high GDP growth since the second half of the 1980s has often been attributed to the success of structural adjustment and sound economic policies. However, economic growth as well as poverty reduction has to a large extent been based on discrete events including the peace dividend after 1986, economic liberalisation and macroeconomic stabilisation in the early 1990s, the increase of foreign aid inflows and the coffee boom of the mid 1990s. While peace and macroeconomic stability are indeed important preconditions for growth and poverty alleviation, they cannot be expected to drive economic growth in the long run.<sup>2</sup>



**Figure 1: GDP and GDP per capita growth rates 1986-2005.**

Data source: World Development Indicators Online database.

An important landmark in Uganda's reform process was the government-convened consultative conference in December 1989 to which all major stakeholders in the economy were invited. The IMF and the World Bank were called in to design a reform programme based on the recommendations from the consultative forum. The recommendations included liberalization of the financial sector, privatisation and divestiture and reduction of excessive government expenditure and liberalization of the foreign exchange market. A strong Ugandan ownership and political will to implement the programme ensured consistency and resistance to policy reversal (Kasekende et al., 2004).

<sup>2</sup> The GDP growth rates in Figure 1 are based on constant local currency prices GDP from the World Development Indicators.

The first years of the NRM government was characterised by loose *fiscal control* with resulting deficits, borrowing from the central bank and a three digit annual inflation rate. In 1992, the high inflation rate was effectively broken. Since then the annual inflation rate has been well below 10%. To achieve this, the ministries of Finance and Planning and Economic Development were merged and its management was given an explicit and strong mandate to match spending to resources. Decisions on the monthly cash releases were taken by a cash flow committee. A continuously updated cash flow table became an important instrument to monitor fiscal developments and guide the decisions by the committee. The cash flow committee included members from the main institutions involved in monitoring macroeconomic policy, including the Ministry of Finance and Economic Planning and the Bank of Uganda. The period after 1992 has basically been characterised by macroeconomic stability (Hernstridge and Kasekende, 2001).

An important element of the stabilisation programme was the *foreign exchange* market reform. In 1990 the parallel market for foreign exchange was legalized. The official rate was devalued but a premium still existed between the official and market rate. Government transactions and coffee exports were confined to the official rate. It was the internal debate rather than external pressure that drove this reform which went beyond IMF conditionality. Reforms that lead to a more symmetric treatment of imports, regardless of the source of the foreign exchange, and the establishment of an interbank market in late 1993 made the gap between the official and bureau exchange rates basically disappear. A long period of depreciation of the market exchange rate had at this time come to an end. In early 1994, a shorter period of appreciation began. This was mainly due to increased inflow because of the increased world market price for coffee and reinvestments from the formerly expelled Asian population as a response to the restoration of properties earlier confiscated.

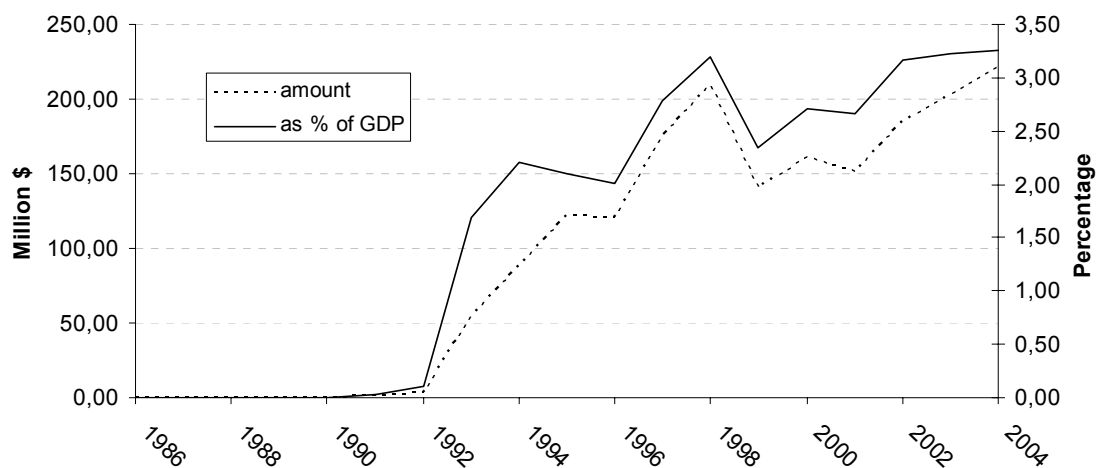
Uganda has had a record in expropriation of foreign properties and in preferential treatment of domestic firms. A number of legal reforms in the beginning of the 1990s revoked this system and took measures that aimed at restoring confidence among foreign investors. These measures, together with the foreign exchange reforms and macro-economic stability had a clear effect on *foreign direct investments* (FDI). Figure 2 reports the flow of FDI to have been extremely low until 1992, after which it rose to more normal levels. Between 1992 and 1993 FDI jumped from 0.1 to 1.7% of GDP and in the period 1994 to 2004 FDI averaged 2.7% of GDP.

Also *Ugandan investors* reacted positively to the more conducive macroeconomic environment. Private sector investment more than tripled between 1990/91 and 2002/03. During the 1990s, the average total investment to GDP ratio was 14.3, a significant increase from the previous two decades, but still below the SSA average. In 2002/03 the investment ratio had risen to 20.3% (MFPED, 2004). Concerning investments in human capital, primary school attendance increased during the 1990s, while for secondary school it was constant. Nevertheless, it is suggested that economic liberalization created a supportive environment for positive returns on education and that education was an important contributor to the growth of the 1990s.<sup>3</sup> However, Kasekende et al. (2004) find that the contribution to GDP growth in the 1990s from education, physical capital and other base variables has been low and instead attribute importance to other variables, such as political stability. It seems that for economic growth to be sustained in the long run, it is critical to further increase investment in human as

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<sup>3</sup> Deininger and Okidi in Reinnika and Collier (2001) and Bigsten and Kayizzi-Mugerwa (1995) in Kasekende *et al.* (2004).

well as physical capital, in particular since most of the direct benefits of the reforms have been reaped by now (Lundström and Ronnås, 2006).



**Figure 2: Foreign direct investment, net**  
Data source WDI, <http://devdata.worldbank.org/dataonline/>

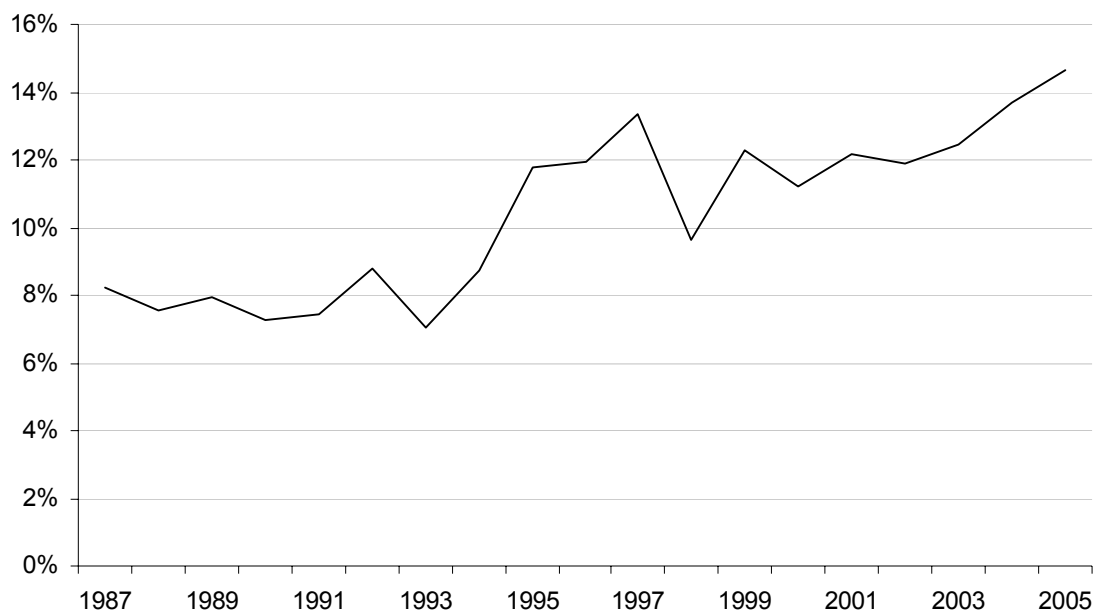
The *incidence of poverty* fell significantly during the 1990s. In 1992, 56% of the Ugandans fell below the poverty line, while the corresponding figure for year 2000 was 34%. The average income rose, while the distribution of income was more or less unchanged. Important for the positive trend of rural poverty during the mid 1990s was the coffee boom. However, income inequality has increased from the end of the 1990s, and between 2000 and 2003 the incidence of poverty actually increased from 34 to 38%. Falling prices on several export crops 2000-2003 was important for this negative development, but the low productivity growth and decreasing soil productivity are contributing factors (MFPED, 2004).

## Trade<sup>4</sup>

Since 1990's, Uganda has focused on diversifying its export structure. The entry into a number of non-traditional export sectors (such as fish and cut flowers) have occurred at the same time as traditional exports, mainly coffee, has declined. Coffee-exports – booming in the beginning of the 1990s, leading to high growth in merchandise exports – have been falling since the second half of the 1990s and is the second largest merchandise export item (after fish). Fish is also of large importance for poverty reduction, because it is the main source of income for about 4 per cent of the population. Coffee, cotton and tea today make up for almost 30 per cent of merchandise exports and is the main source of income for up to 20 per cent of the population. The lion part of this is due to coffee (despite its falling share since the mid 1990s), while cotton and tea is less important with around 5 per cent each. Floriculture has emerged as the third largest non-traditional export after gold and fish, employing around 6000 persons. The single largest foreign exchange earner in Uganda since mid-1990s is the reincarnated tourist sector, even though reports of foreign exchange earnings varies from 197 million USD in 2004 (Bank of Uganda) to 444 million (Uganda Bureau of Statistics).

<sup>4</sup> This section draws heavily on DTIS (2006).

In 2005, Uganda joined the East African Community's Custom Union (with Kenya and Tanzania) and adopted the Common External Tariff (CET) which resulted in higher tariffs for imports to Uganda.<sup>5</sup> Concerning exports, Uganda does not face high tariffs or non-tariff barriers to its current export partners, and exporters have managed to meet the requirements of preferential treatment in the EU. Given that the main constraint to exports are on the supply side, tariff barriers is not a very important constraint to Ugandan exports. Overall, Uganda's foreign trade has been liberalised, though it is still a fairly closed economy with exports being about 14% of GDP in 2005 (see Figure 3).



**Figure 3: Exports as a share of GDP, 1987-2005.**

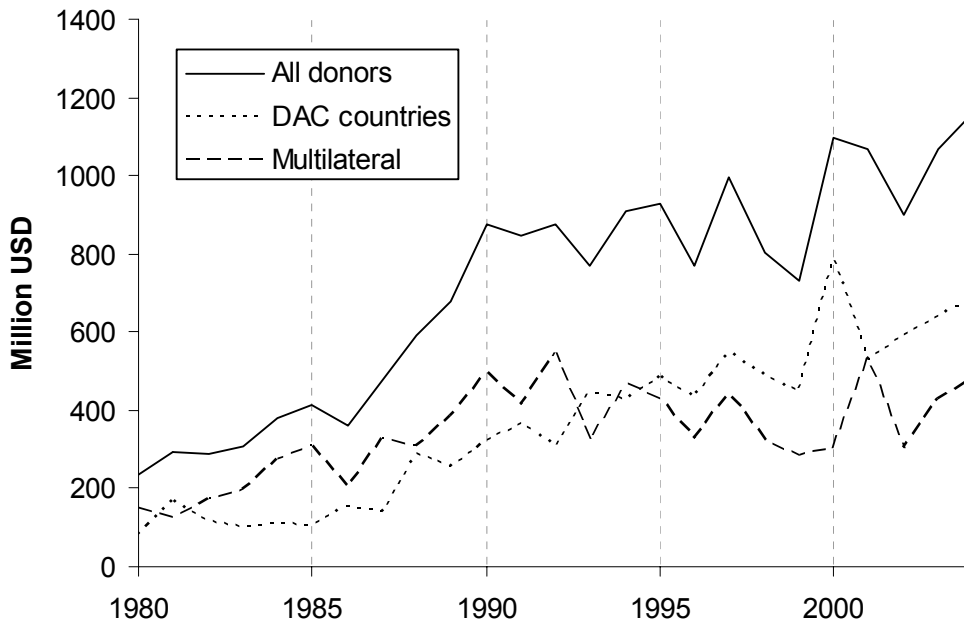
Source: World Development Indicators Online database.

## **Aid**

When Museveni and his guerrilla, the National Resistance Army, sized power in 1986, things started to normalize after years of mismanagement and terror under the Amin and Oboto regimes. Aid flows increased significantly, in absolute as well as in per capita terms (see Figure 4 and 5) with the sharpest increase taking place during the first four year of peace. In the 1990s this increase in aid levelled off and in per capita terms as well as in shares of GNI, aid flows actually shrank. From 1999, the trend is again positive.

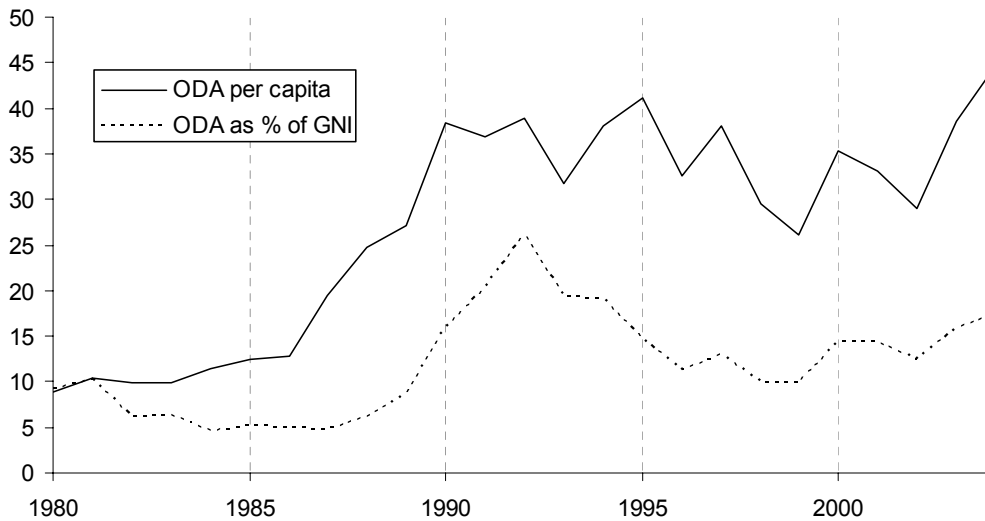
With aid flows above 10% of GDP and around 50% of the public expenditures, development cooperation necessarily plays an important role in Uganda. Some 40 bilateral and multilateral donors provide this aid, though the bulk of aid comes from a few large donors. In 2003, 86% of the ODA came from the 10 largest donors with the World Bank (25%), USA (18%), UK (10%) and EC (8%) topping the list (Lister *et al.* 2006). The relative size of bilateral flows has increased over time, and since mid-1990s they are larger than multilateral flows (see Figure 4).

<sup>5</sup> Member countries of COMESA are exempt from the EAC CET.



**Figure 4: Trends in ODA (2004 year's prices)**

Source: OECD/DAC's International Development Statistics [www.oecd.org/dac/stats/idsonline](http://www.oecd.org/dac/stats/idsonline).

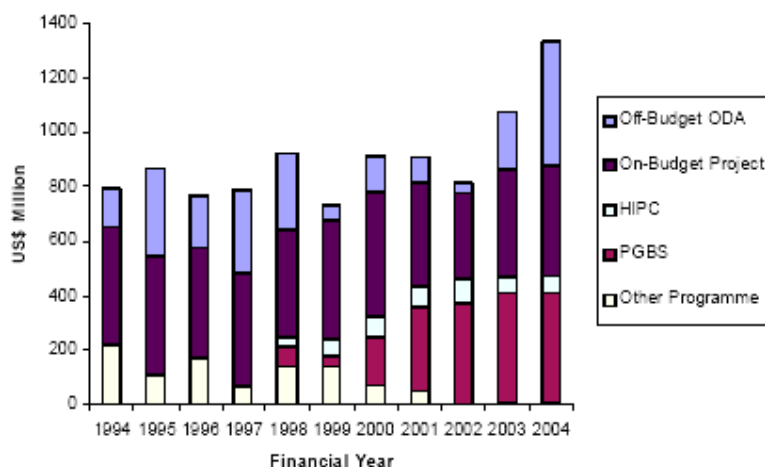


**Figure 5: ODA in relation to population and GNI**

Source: OECD/DAC's International Development Statistics [www.oecd.org/dac/stats/idsonline](http://www.oecd.org/dac/stats/idsonline).

Assisting the Government of Uganda's attempts to stabilise the macroeconomic situation in the early 1990s the donors provided quite large quantities of programme aid in the form of balance of payment support. This was followed by an increase in debt relief funds from the mid-1990s. However, throughout the decade project aid dominated, and before the move towards sector-wide approaches in the late 1990s project aid was largely uncoordinated.

In the end of the 1990s, donors perceptions was that the Government of Uganda had been successful in reforming the macroeconomic situation as well as the public sector. Poverty seemed to decline and donors bought into the budget support linked to the Government's Poverty Eradication Action Plan (PEAP). Hence, between 2000 and 2003 there was an increase in general budget support (GBS, see Figure 6). About half of total aid to central government was given as GBS and this share is envisaged to rise to 62% (MFPED, 2004). Compared to the second half of the 1990s, donors made relatively smaller ODA commitments to the education, energy, and water and sanitation sectors during 2000-2004, while population programmes experienced a relative surge in finance.<sup>6</sup>



**Figure 6: Trends in aid modalities in Uganda**

Source: OECD DAC (2006) and MFPED Development Assistance Reports (1994–1999) and Budget Performance Reports (2000–2005) in Lister *et al.* (2006).

With the increased importance of GBS comes an increased emphasis on the strengthening of the budgeting process and on budgetary reforms. According to the assessment of the Swedish cooperation with Uganda 2001 to 2006, the financial management systems have been improved and transparency increased, resulting in focus on anti-corruption.<sup>7</sup>

Throughout the 1990s, the Ugandan government has promoted donor coordination and alignment to government structures and programmes. This resulted in the development of sector-wide approaches and pooled funding mechanisms, joint missions and joint analytical work. The government-donor relations were clarified in a set of partnership principles signed in 2003 in which, among other things, the government commits to a continued focus on poverty eradication and donors commit to increase coordination efforts (UJAS, 2005). Uganda and the donors have gone quite far in implementing more efficient structures and modes of work in their development cooperation. The donors use joint structures and mechanisms to discuss aid effectiveness and political issues. A Uganda Joint Assistance Strategy (UJAS) has been developed.<sup>8</sup>

<sup>6</sup> See Figures A1-A3 in Appendix A on the sector distribution of ODA commitments.

<sup>7</sup> See the draft memo “Summary of Assessment of results and experiences of the development cooperation 2001-2006”, Embassy of Sweden, Kampala.

<sup>8</sup> There are currently ten participants in the UJAS: the World Bank, the African Development Bank, the UK, the EC, Italy, the Netherlands, Norway, Germany, Austria and Sweden. Denmark and Ireland are expected to become UJAS partners shortly.

## Descriptive analysis

### Trade

There is a vast literature investigating the economic effects on LDCs from different measures of trade liberalisation. Usually CGE models are used to simulate various trade liberalisation scenarios and the effect on welfare of developing countries. For Uganda, various results have been reported. Blake *et al.* (2002) use a CGE model to simulate the effects of agricultural trade liberalization. They find positive effects even though these are found to be small since Uganda suffers from supply response constraints and the agricultural liberalisation of world trade has little impact on the world prices of the products Uganda exports. The greatest share of the welfare gains is found in better incentives for agricultural producers and manufacturers using imported inputs. They also find that the largest proportional gains go to both the urban self-employed and rural households.

Giblin and Matthews (2005) use the UNCTAD Agricultural Trade Policy Simulation Model (ATPSM) to conduct partial equilibrium simulations of the effects of different agricultural trade liberalisation scenarios on welfare, production and trade on Uganda. They find small total welfare effects. The main gains from EU trade liberalisation come from tariff cuts and not as much from changes to domestic support or export subsidies. Agricultural trade liberalisations in China and in India as well as unilateral tariff cuts by Sub-Saharan African countries themselves seem to produce the largest welfare gains.

Ianchovichina *et al.* (2002) use the CGE model GTAP to assess the value of improved access to the markets in the EU, Japan and the USA for 37 Sub-Saharan African countries. In general, they find that unrestricted access for all products would produce substantial gains for SSA-37, in particular in the form of improved terms of trade but also from efficiency gains associated with resource allocation. Lippoldt and Kowalski (2005) use GTAP to simulate trade liberalisation scenarios that would entail preference erosion. They show that globally, and for a majority of developing regions, liberalisation by preference-granting countries will result in positive welfare gains. However, the analysis points to a risk for net welfare losses for Uganda.

In their study of today's differences between Uganda's and Zimbabwe's manufacturing performance, Wood and Jordan (2000) point at the importance of the historical preconditions. When Uganda became independent its manufacturing base was rather weak, and with the expulsion of the Asian population in 1972 a lot of know-how that existed disappeared affecting both production and trade.

Today, Uganda stands in front of a shift from (to a large part aid-financed) consumption-led growth into export-led growth which is considered essential for sustaining the earlier impressive economic growth record. That economic growth should be export-oriented is also a goal of the PEAP. However, in order for Ugandan exports to contribute to poverty reduction, it is of great importance to promote traditional agricultural exports. This need not contrast to continued diversification of exports (DTIS, 2006; Lundström and Ronnås, 2006). As pointed out in the DTIS, Uganda is on a path towards an export structure well in line with the country's comparative advantages. High transportation costs give a comparative

advantage in export products with low import contents and high value-to-weight ratios (such as fish and cut flowers) as well as for service exports.

One conclusion in the DTIS is that donors could fund the preparation and implementation of a plan for restructuring the Uganda Export Promotion Board (UEPB) into an independent body with focus on supply-side constraints. Another issue is an insufficient focus on quality management in the promotion of agro-food exports, despite an enormous amount of aid. There is need to develop standards to improve export competitiveness. Nevertheless, on average, the business environment seems to be quite competitive in a Sub-Saharan African comparison. Uganda scores over the Sub-Saharan average in all but two of the indicators of business environment, as listed in Table 1.

**Table 1: Business environment indicators, Uganda and Sub-Saharan Africa (2005)**

	SSA	Uganda
Business disclosure index (0=less disclosure to 7=more disclosure)	5	7
Cost of business start-up procedures (% of GNI per capita)	215	118
Procedures to build a warehouse (number)	20	19
Procedures to enforce a contract (number)	36	15
Procedures to register property (number)	7	8
Start-up procedures to register a business (number)	11	17
Time required to build a warehouse (days)	251	155
Time required to enforce a contract (days)	439	209
Time required to register property (days)	118	48
Time required to start a business (days)	64	36
Time to prepare and pay taxes (hours)	394	237
Rigidity of employment index (0=less rigid to 100=more rigid)	53	13

Source: World Development Indicators online database.

There have been significant trade policy reforms in Uganda. The adoption of the Common External Tariff (CET) in 2005 is considered anti-poor (due to the increased tariffs on food) and risks leading to trade diversion (i.e. a substitution from cheaper imports outside the union to imports inside the union). CET will be revised in 2009. During the 1990s the effective protection almost eliminated imports and the taxation of exports was heavily reduced. However, both imports and exports are affected by Uganda's landlocked status, its distance to markets and, hence, high transport costs. Milner *et al.* (2000) estimate the protection from these natural barriers to be equivalent to an effective rate of protection of 48 per cent in 1994 and find no reason to believe they have been reduced significantly.<sup>9</sup> Furthermore, Milner *et al.* (2000) found that "the implicit tax associated with transport costs was as high as 100 per cent for manufactured foods, almost 40 per cent for food products, almost 25 per cent for coffee, cotton and tea, and about 20 per cent for fish." To this one should add the limited access to finance, market information and reliable supplies of utilities, such as electricity and water.

DTIS (2006) also identifies major constraints to export expansion in the energy and transport sectors. The recent oil price hike, together with low water levels in Lake Victoria, has made power shortage a major binding constraint to maintaining existing exports, as well as to new exports. While a lower oil price and temporary government interventions could ease the situation somewhat, no permanent improvement is expected until the Bujagali dam becomes operational (expected in 2010). In terms of transport, Uganda faces domestic as well as

<sup>9</sup> Rudaheranwa (2004) estimated the effective rate of protection arising from transportation costs to decrease slightly from 30 percent in 1994 to 25 percent in 2001.

international constraints outside the country's own control. Larger transportation costs incurred by nature (due to its landlocked status), congestion around Kampala and low quality of rural roads are examples of the former, while congestion at Mombasa Port (handling 95 per cent of Uganda's external trade), formal costs for transiting through Kenya and the poor transport system in Kenya are examples of the latter.

The obvious policy conclusion is that it is important for Uganda to increase its international competitiveness by taking measures to reduce transport costs and, more generally, transaction costs at large. However, this requires costly investments in both physical infrastructure as well as human resources. With scarce resources it is important to identify the most critical bottlenecks. Importantly, not only could development assistance for infrastructural investments and maintenance within Uganda facilitate trade, but to a large extent also assistance to neighbouring countries' transportation systems. Nevertheless, the allocation of aid to infrastructure has declined in recent years, going from a share of 12 per cent of total commitments in 2001 to only 2 per cent in 2004.<sup>10</sup> This reflects, however, the increased emphasis on domestic ownership of the development process, since general budget support commitments at the same time increased, from 0 per cent in 2001 to 39 per cent of total commitments in 2004.

## **Aid**

What are the effects of aid to Uganda? Collier and Reinikka (2001) estimate the contribution of aid to amount to 30% of the realised per capita GDP growth rate and of the fall in the incidence of poverty. They regard this to be a conservative estimate considering the positive effect that aid has had on policy reforms and the overall economic performance of the Ugandan economy. A drawback with Collier and Reinikka's study, shared with the bulk of the aid effectiveness literature, is that it does not disaggregate aid. Aid comes in many different forms and it is clear that it can have potentially very different impact on growth and poverty reduction depending on the sector to which aid is directed and what modality is used.

Mavrotas *et al.* (2003) make an attempt to find out how different types of aid affect consumption, investment and growth during the period 1980 to 2000. Comparing project aid, programme aid, technical assistance and food aid, they find that that project aid and food aid have a negative impact on public investment, while programme aid and technical assistance have a positive impact. Project aid also impacts negatively on private investments while other forms of aid affect private investments positively. Domestic savings are estimated to be negatively affected by technical assistance. The effect from programme aid instead is positive, while no effect from project aid on domestic savings is found. The government reduces borrowing considerably when programme aid, food aid and technical assistance are increased, whereas additional project aid only has a minor effect on this dimension. Considering short-run growth effects, project aid has a zero effect, while technical assistance and food aid have a negative effect. The long-run growth effects from technical assistance and food aid are however positive while, project aid has a negative impact in the longer run. Programme aid has a positive impact on growth in both the short and the long run. Mavrotas *et al.* (2003, p.

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<sup>10</sup> "Infrastructure" here is the sum of the DAC sector codes 0 Economic Infrastructure, Unspecified; 1 Transport & Storage; 2 Communications; 3 Energy; 4 Banking & Financial Services and 5 Business & Other Services.

vi) interpret these results as “in the case of Uganda, programme aid is preferable to project aid [...] in terms of its impact on growth, and on other macroeconomic variables”.

To what extent is the development cooperation trade-related? Most donors are involved in stand alone-projects in their private sector support. Private sector support is subject to the so-called Integrated Framework process that aims to integrate trade in the national development strategy by identifying and prioritising Uganda's needs for trade-related support, including the coordination and division of labour between the donors in order to enhance efficiency in aid delivery and avoid overlapping. Still, some bilateral donors support business-to-business relations with national (donor) economic interests.<sup>11</sup> Others, such as the World Bank and the European Union, have programmes that specifically target government institutions. However, there is concern among donors that the Ugandan government lack real commitment to competitiveness, investment climate and private sector development.

Apart from the impact that project and programme aid may have on Uganda's trade capacity, there is also the potentially important impact of the policy dialogue on economic reforms between the Ugandan government and the donors. While many other reforms came slowly or were the result of an internal Ugandan process, the liberalization of the cotton and coffee marketing was to a large extent a result of the policy dialogue with the donors (Ddumba-Ssenamu et al., 1999). These reforms, together with the reforms of the foreign exchange markets, facilitated the producer's response to the coffee boom in the mid 1990s. Hence, this is one of the clearest examples where ODA have had a positive impact on Uganda's trade, not so much through the volume of aid as through its associated policy impact. The recent Uganda Diagnostic Trade Integration Study (2006, p. xxii) summarizes what it sees as the role of donors in relation to trade:

”Donors have played an important role in the promotion of exports in Uganda, with prominent examples being development of the floriculture export industry; strengthening of SPS [Sanitary and Phytosanitary] capacity in the aftermath of the EU fish import ban; and provision of much needed training in various areas. There continues to be need for donor support in several areas. However, such support would be much more effective if undertaken via comprehensive and coordinated sector/sub-sectoral interventions rather than isolated support in narrow areas, which has too often been the case in the past. The DTIS has identified the need for such a comprehensive and coordinated approach in several areas including fisheries, coffee and cotton sub-sectors, and SPS management.”

Aid is likely to have a larger impact on Uganda's imports than on its exports. Aid flows are transfers in foreign exchange that sooner or later will be used to pay for foreign products and services. However, unlike foreign exchange obtained by exports, aid money often has strings attached on what can be bought and from where it should be bought. In his study of 20 donors and 109 recipients, Wagner (2003, p. 19) estimates that “35 cents of every dollar of aid comes directly back to the donor for exports of goods related to the aid financed projects and that another 98 cents finds its way back to the donor for exports of goods not directly linked to aid projects.” That is, on average the total increase in exports of goods in response to aid is 133% of the aid-transfer. From Wagner's estimates we know that there is large variation between donors. It is also reasonable to assume that aid to different countries will have a different impact on donor exports, a finding that is supported by our Uganda-specific estimates. In the case of Uganda aid will result in a significant impact of donor export, but with a much smaller magnitude than estimated by Wagner.

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<sup>11</sup> The findings in the empirical section that the donor export is positively correlated with its aid confirm that aid to some extent is geared towards the donors' national economic interests.

Is the reflow a problem? To the extent that respective donor country is also providing at competitive prices the best quality of the good actually imported from that donor, tying (formal or informal) would not carry with it any efficiency costs. This has little to speak for it, and Jepma (1991) reports that the tying of aid on average leads to a cost increase of 15-30%.<sup>12</sup> The formal tying status of aid to Uganda is however fairly small, so in the Ugandan case the problem is probably not so important.<sup>13</sup>

### ***Aid-induced Dutch disease?***

Being qualified for the Heavily Indebted Poor Countries Initiative, Uganda has experienced a surge in aid inflow over the last decade. This growth of aid inflows, to a large extent in the form of budget support and mainly spent in the non-tradable sector, presents considerable macroeconomic challenges.<sup>14</sup> One important concern is whether the large inflows will raise the real exchange rate and make exports less competitive and hurt long-term growth. There have been intense discussions on whether this Dutch disease-type effect has been a problem in Uganda. Neither the behaviour of exchange rates and performance of exports, nor data of financial flows and macroeconomic performance in general give any clear cut evidence on the issue.

The time series of the real and the nominal exchange change rate, summarized in Figure 7, depicts the shilling generally depreciating except between 1992/93 and 1995/96 when some appreciation was recorded. There are also concerns now that the exchange rate is entering a new period of appreciation. However, it is rather difficult to analyse export competitiveness using the trends of the exchange rate only, since changes in economic fundamentals or non-fundamental factors could have diverse impact on the real exchange rate.<sup>15</sup> Although researchers and practitioners seem to agree that there have been factors creating an upward pressure on the currency, the exact extent of the impact of aid remains debatable.

According to Nkusu (2004) during the period 1992/93 and 1995/96 there was, on an annual average basis, an appreciation of real effective exchange rate (REER) of 7.5 percent, while the terms of trade improved by 16.6 percent and total financial inflows increased by 24.3 percent. Between 1996/97 and 2000/01 the REER depreciated by an annual average of 1 percent, while the terms of trade deteriorated by 8 percent and total financial inflows increased by almost 3 percent. She argues that growing financial inflows, developments in terms of trade and structural reforms that the economy has undergone, indicates that the behaviour of the REER cannot be ascribed to movements in financial inflows only.

Lundström and Ronnås (2006) conclude that the Ugandan shilling has been subject to considerable appreciation over the past decade and quote an unpublished study estimating that ODA at its present level probably has led to an increase in the value of the Uganda shilling of

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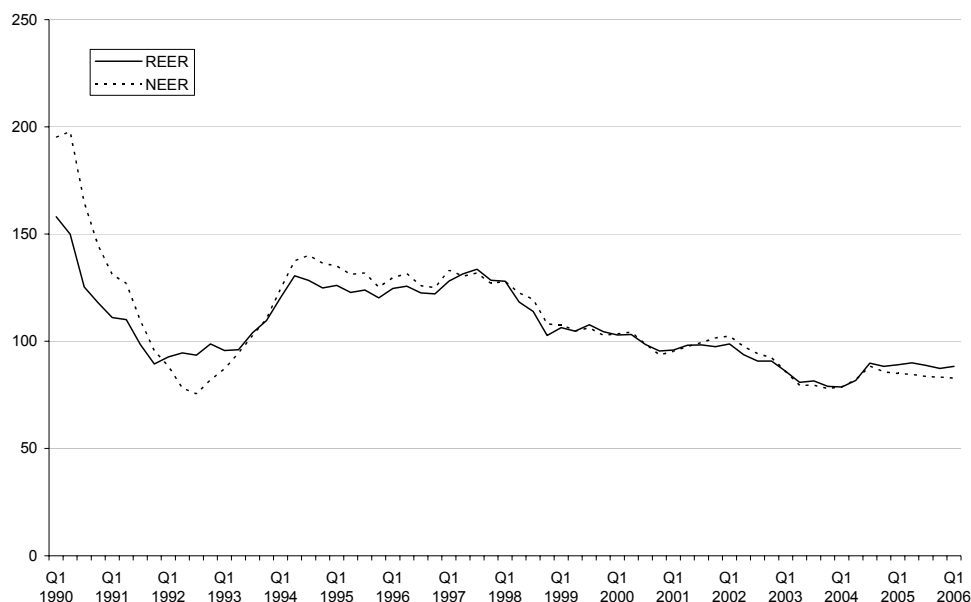
<sup>12</sup> Jepma's review of significant cost increases of tying is supported by more recent evidence. Osei (2004) find a price ratio of 3:1 between tied aid and non-aid imports looking at data for Ghana during 1990-1997.

<sup>13</sup> We return to this discussion in the empirical section. Of the commitments for which we have information on tying status, 2.1% was tied or partly tied to purchases from the donor country. However, 27.1% of the total bilateral aid to Uganda has no reporting on tying status. It is noteworthy that for USA, Uganda's largest bilateral donor, there is no information on tying status in the DAC statistics (see Table 2).

<sup>14</sup> The sector allocation of aid has been characterized by channelling of a large portion of budget support towards poverty reducing expenditures through Poverty Action Fund (PAF), which has directly benefited poverty-reducing sectors such as the health, education, agriculture, water and sanitation, roads, and works sectors.

<sup>15</sup> The major factors contributing to the movement in the real exchange rate include the degree of openness, terms-of-trade movements, levels of government expenditure and capital flows.

between 30 and 75 per cent.<sup>16</sup> The DTIS (2006) points out that much of the recent concern in Uganda has been focused on the appreciation of the Ugandan shilling with respect to the US dollar. The Ugandan shilling appreciated 12.3 percent in real terms compared to the dollar between 2003 and 2005. However, the dollar exchange rate is not the best indicator of Uganda's overall export competitiveness, since the United States is not an important export destination for Uganda (while being a major aid donor, only 2.8 percent of Uganda's exports are destined for the United States). The DTIS concludes that the real exchange rate with the Euro, which is a better measure of Uganda's export competitiveness (nearly 30 percent of the exports one absorbed by the European Union), shows a smaller appreciation of 5 percent during the same time period.



**Figure 7: Nominal and real effective exchange rate 1990 – 2006**

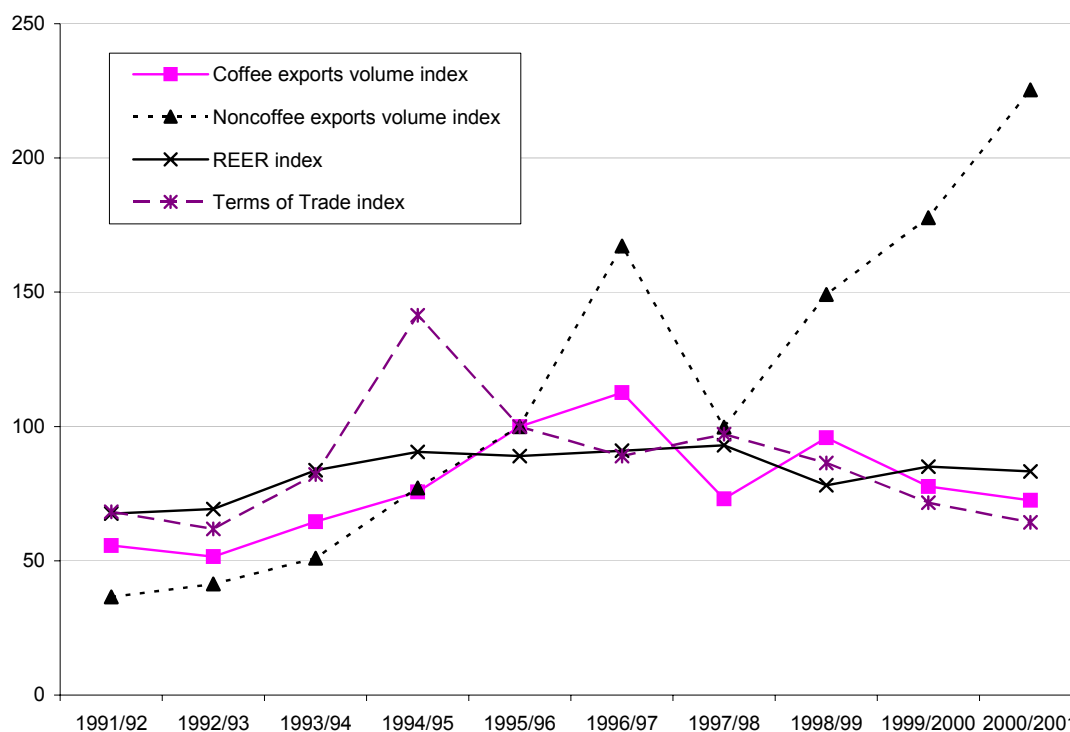
Source: IMF, International Financial Statistics

The extent to which the domestic profitability and competitiveness of exports are affected by an appreciation depends on the price and income elasticities on the demand and the supply side, as well as the import content in production. In particular, if the income elasticity of demand for non-tradables is high, a large appreciation of the real exchange rate could occur, while both a high price elasticity of supply and demand for non-tradables would result in a smaller real exchange rate appreciation. Lundström and Ronnås (2006) argues that since the export sector in Uganda is mainly made up of cash crops with low import content, an appreciation of the Ugandan shilling will hurt export-led growth in particular and growth in general and to a large extent hurt the rural poor. The DTIS highlights just the opposite; that the import content of infrastructure in Uganda is high, which would reduce the pressure on the real exchange rate.<sup>17</sup> As motive for focusing on the infrastructure, the DTIS refer to a recent

<sup>16</sup> (The) Macroeconomic Management of Aid Inflows (2006).

<sup>17</sup> Import content for power generation in Uganda is around 90 percent, for transmission and distribution around 70 percent, and for paved roads around 90 percents.

study showing that infrastructure (and finance) is the most important constraints for manufacturing in Uganda.<sup>18</sup>



**Figure 8 Selected External Trade Indicators 1991/92 – 2000/01**

Source: Nkusu (2004)

The data presented in Figure 8 does not reveal a straightforward impact of the REER on Uganda’s export over the last 15 years, whether for coffee or noncoffee exports. Estimating the level of misalignment of the exchange rate and assessing their impact on the performance of non-traditional export during 1980-1999, Atingi-Ego and Sebudde (2004) find that non-traditional exports are inversely related to the degree of misalignment. In addition, they find that while the non-traditional export performance is highly inelastic to changes in the degree of misalignments when the shilling is overvalued, particularly by more than 15%, the converse is true for an overly under-valued shilling.

Since there has neither been a significant appreciation in Uganda’s REER nor a decline in the real exports, despite massive financial inflows, Nkusu (2004) concludes that the applicability of the core Dutch disease model to Uganda has been weak. She argues that three factors can explain this situation. First, some characteristics of the Ugandan economy depart from key assumptions of the Dutch disease model, i.e., Uganda is very likely still producing within its production possibility frontier. Unused or inefficiently used production factors, such as labour and, to some extent land, can prevent a resource transfer effect as assumed by the Dutch disease theory. Second, economic reforms aimed at liberalizing the economy in general and

<sup>18</sup> Hesse (2006)

trade system in particular has encouraged both exports and imports and widened the trade balance. The increase in foreign inflows compensated for the shortfall in exports proceeds emanating from the adverse terms of trade shock that has affected Uganda since 1998/99. And finally, prudent monetary and exchange rate management have achieved price stability and has controlled real exchange rate appreciation.

The macroeconomic evidence of how aid flows affect the real exchange rate and the structure of domestic production, and the size of these effects, are weak. Econometric estimates often show these effects to be small and statistically insignificant.<sup>19</sup> One problem is that all empirical work in this area is plagued by severe measurement problems, both of the real exchange rate itself and across alternative concepts of tradable and non-tradable goods.<sup>20</sup>

Yano and Nugent (1999) find mixed econometric evidence on the relationship between aid, real exchange rates, and the structure of production among a set of 44 aid-dependent countries during 1970-1990. For Uganda, they find that although aid is associated with a depreciation of the shilling rather than appreciation during the period concerned, the non-traded goods sector expanded sufficiently as to give rise to immiserization. Elbadawi (1999) estimates the relationship between ODA, real exchange rates and non-traditional exports for a panel of 62 countries. Based on the results he classifies Uganda as having “acute” aid dependency and stress that Uganda is likely to experience real exchange rate overvaluation in the future.

In recent years, simulation models calibrated by data have been used to understand the dynamic responses and assess the quantitative significance of the macroeconomic effects of aid flows.

Adams and Bevan (2006) develop a CGE-model of aid and public expenditure where public infrastructure capital generates inter-temporal productivity spillover for both tradable and non-tradable sectors. The model also provides for a learning-by-doing externality, through which total factor productivity in the tradable sector is an increasing function of past export volumes. The model is calibrated to contemporary conditions in Uganda to simulate the effect of increased aid. The results show that public expenditures whose productivity effects are skewed towards the non-tradable sector deliver the highest growth in exports and total output. The bias in productivity effects increases the supply of non-tradable goods, which is sufficiently strong to almost entirely offset the demand effects of increased aid flows. The results also show that exchange rate appreciation is reduced or even reversed enhancing export sector performance. However, in terms of poverty reduction, the results show that income gains largely accrue to urban skilled and unskilled households leaving the rural poor relatively worse off.

Michael Atingi-Ego at the Bank of Uganda argues that Uganda has not yet suffered from Dutch disease, but that there are certain times when Uganda feel the stress of it.<sup>21</sup> He claims that the deterioration in terms of trade (on account of world coffee prices) alone assured that Dutch disease did not occur, but the very prudent macroeconomic policies pursued by the government were also an important factor.

In a discussion paper Atingi-Ego (2005) comments on the studies by Nkusu (2004) and Adam and Bevan (2003) that both point to the fact that the fears for a Dutch disease in Uganda may

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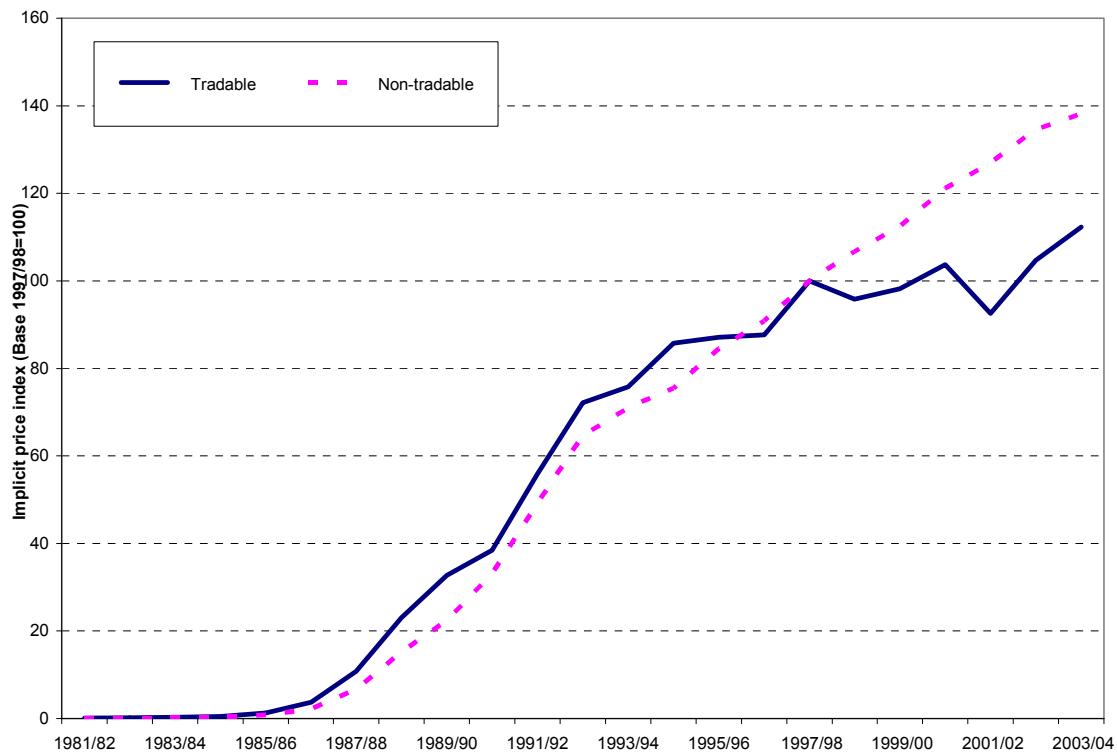
<sup>19</sup> For a summary of the literature see Adam (2006).

<sup>20</sup> Adam (2006)

<sup>21</sup> Interview with Michael Atingi-Ego in August 2005.

not be founded. Whereas he acknowledges the Nkusu-argument that if there is excess capacity (which could be the case in Uganda), then an increase in aid will only move the economy closer to the production possibility frontier, he is more sceptical to the assumptions encompassed in the Adam-Bevan model. First, for the productivity spillover effects to counteract the appreciation tendency, the price elasticity of supply must be elastic, i.e. larger than one. This is most likely not the case in Uganda, at least in the short run. Second, he questions to what extent this spillover effects do exist. Uganda lacks institutions to ensure efficiency of the investments, i.e. value for money. Atingi-Ego claims that even if Dutch disease exists in Uganda, the impact cannot be distinguished. Since exports, and non-traditional exports in particular, are increasing, there are probably certain subsectors in the export sector that could be realizing productivity efficiencies to be able to offset appreciating export rates.

Movements of exchange rates and exports notwithstanding, other data give to some extent a different picture. Examining the trends in the price indices for the major components of GDP shows that prices for non-traded goods in Uganda have grown much faster than prices for traded goods (see Figure 9).



**Figure 9: Trade vs. Non-traded prices**

Source: Atingi-Ego (2005)

This could be interpreted such that the price incentives within the domestic economy have shifted away from traded goods production towards non-traded goods production. This could be attributable to the increased demand for non-traded goods arising from increasing government expenditures. However, it cannot be ruled out that the movements in the price index for traded goods reflect the deterioration in the terms of trade shown in Figure 8. Unfortunately, it exists no output figure for the non-tradable sector, which would have been necessary to substantiate the claim that this is a symptom of Dutch disease.

To conclude, simple analyses of plotted time series data does not provide evidence of Uganda suffering from Dutch disease. In addition, the econometric or simulation methods are crude and data are unreliable. In the discussions there is no consensus on whether Uganda is suffering from Dutch disease. Nonetheless, both theorists and practitioners seem to acknowledge that there is a limit to the level of aid that can be managed, beyond which it could render macroeconomic management difficult and undermine the growth prospects of the economy.

## Empirics: A Gravity Approach to the Aid and Trade Nexus

Our empirical model is an augmented gravity model. The gravity model explains bilateral trade intensity (in terms of total trade, exports or imports) as a function of economic size (proxied by the gross domestic product of the trading pair), the level of development (captured by GDP per capita) and transport costs (distance). Trade is expected to increase in size and level of development and to decrease in transport costs. Let us define  $Gravity_{ijt}$  for an exporting-importing country pair to include the “fundamental” gravity-model variables and their associated multipliers and a constant. That is,

$$Gravity_{ijt} = \beta_0 + \beta_1 LnGDP_{it} + \beta_2 LnGDP_{jt} + \beta_3 Lngdppc_{it} + \beta_4 Lngdppc_{jt} + \beta_5 LnDistance_{ijt} + \beta_6 Contingency_{ijt} + \beta_7 CommonColonizer_{ijt} + \beta_8 Colony_{ijt} + \beta_9 CommonOfficialLanguage_{ijt} + \beta_{10} RTA_{ijt}$$

The subindex  $i$  represent the exporting country,  $j$  the importing country and  $t$  the period.  $GDP$  is respective country’s GDP,  $gdppc$  is GDP per capita,  $Distance$  is the distance between the two countries (in km between economic centers in respective country),  $Contingency$  is a dummy taking the value one if the two countries are contiguous,  $CommonColonizer$ ,  $Colony$  and  $CommonOfficialLanguage$  are dummies taking the value one if the two countries have had a common colonizer after 1945, ever had a colonial link and share a common official language.  $RTA$  finally, is a dummy variable equal to 1 if the two countries are members of the same regional trade agreement. Additional to the typical gravity variables we add the aid variables  $Aidg_{ij}$ , which is the exporting country  $i$ ’s aid to country  $j$ , and  $Aidr_{ij}$ , the aid the exporting country receives from country  $j$ . Our extended gravity model becomes

$$LnExport_{ijt} = Gravity_{ijt} + \beta_{11} LnAidg_{ijt-1} + \beta_{12} LnAidr_{ijt-1} + \varepsilon_{ijt} \quad (1)$$

where  $Export_{ij}$  are exports from country  $i$  to country  $j$  in period  $t$ .<sup>22</sup> This model will be tested for all observations that include Uganda either as an exporter or importer. The parameter  $\beta_{11}$  will be a measure of the extent to which aid will induce the recipient to import from the donor (i.e. relating to the issue of formally, or informally, tied aid) and the variable  $\beta_{12}$  will measure whether aid induces the recipient to export more to the donor (i.e. whether aid somehow create commercial links between the donor and the recipient that will enhance the recipient’s export to the donor).<sup>23</sup> In order to somewhat handle potential endogeneity of aid flows to exports, we use one period lagged aid flows.<sup>24</sup>

<sup>22</sup> The standard specification of the gravity equation normally includes total trade. Our use of export data gives two observations per country pair that will share the value of almost all independent variables which would tend to yield less precise estimates.

<sup>23</sup> It could of course be that aid enhance the recipient’s capacity to export in general, but does not have any specific impact on the export to the donor from which the aid was received. One way to address this effect could be to add to the model a variable that measures the total aid received by the exporting country. In our

We mentioned earlier that the impact of different forms of aid to Uganda seems to vary depending on whether the focus in the analysis is on growth, investments or public borrowing. It may also be that certain forms of aid has a specific impact on exports or imports, while other forms of aid lack this effect (or have an opposite effect). To explore this, we disaggregate the aid variables *Aidg* and *Aidr* into aid that is in the form of technical assistance (TA), general budget support (GBS) and remaining aid.

## **Data**

We use a sample of exporters to and importers from Uganda for the years 1998-2002. The trade data is from the COMTRADE data base. We obtain a panel (unbalanced) of 797 observations for 185 countries. Data for GDP and GDP per capita are taken from the World Development Indicators Online database. All nominal variables are deflated into 2000 dollars using the US GDP chain price index. Data for distance, contingency, colonial and common language dummies are taken from the “distance database” at CEPPII.<sup>25</sup> Common membership in a regional trade arrangement is here simply a dummy for membership in COMESA. Data on official development assistance is from OECD/DAC’s International Development Statistics, DAC online, Table 2a with one exception. Data on general budget support (GBS) is not available in disbursement form. We attempt to proxy for GBS by applying the share of GBS commitments to total commitments, using the Creditor Reporting System (CRS) Table 2, and then assuming the share of GBS in disbursed aid to be the same.

## **Empirical results**

Results from our estimation of equation (1) and versions of it are presented in Table 3.<sup>26</sup> The coefficients on the standard determinants are in line with expectations apart from the effect from the exporting country’s GDP per capita level. Whether exporting to Uganda or for Ugandan exports, per capita GDP is estimated to have a zero influence. The estimates from our first regression in column (1) suggest aid given has a small but significant impact on the bilateral exports to Uganda. This finding is well in line with earlier studies: donors tend to export more to recipient countries. Moreover, aid received by Uganda has a small impact but enters positive and significant (albeit only at the ten percent level). Hence, there is some evidence that bilateral aid also tends to increase Ugandan exports to donor countries.

Based on our estimation, one dollar of additional aid will on average lead to an increase of the donor country export to Uganda by 4.5 cents. The formal tying of the bilateral aid to Uganda is only 2.1 (for the countries for which there is information, see Table 2). That is, aid seem to give a reflow in terms of export earnings to the donor country that, on average, is more than twice the formal tying of aid. We do not have any data on the tying status for Uganda’s largest bilateral donor, USA. However, the parameter estimate for aid given does not become smaller

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specification however, having Uganda as the only aid receiving country, this would only proxy for time dummies, adding little room for interpretation of the coefficient estimate. We hence refrain from including total aid and instead use time dummies throughout this section.

<sup>24</sup> Other papers using the gravity model of trade in analysing the effect from aid are Nilsson (1997), Osei et al. (2004) and Wagner (2003). They all however only consider the effect of aid on donor exports.

<sup>25</sup> <http://www.cepii.fr/>

<sup>26</sup> In a first regression, the COMESA dummy as well as the language dummy did not enter with any conventional level of significance and were hence dropped.

when excluding USA from the sample.<sup>27</sup> We conclude that the reflow to USA is not significantly larger than for the donors on average. To the extent that the bias of trade towards donor countries results in the “wrong” goods and services being imported and to the extent the “right” goods are imported but to unnecessarily high costs the bias is harmful. Other studies point at a significant cost increase of formally tied aid. In the case of Uganda, the small magnitude of the reflow of aid in terms of donor export indicates the overall distortionary impact to be rather small.

**Table 2: Shares of tied aid to Uganda 2004<sup>28</sup>**

	<i>Share tied (%)</i>	<i>Share of total aid for which tying status is unreported (%)</i>
Australia	0,0	0,0
Austria	-	100,0
Belgium	0,0	0,0
Canada	35,7	0,0
Denmark	0,0	4,6
Finland	0,0	0,0
France	0,0	39,4
Germany	19,9	18,9
Greece	0,0	32,8
Ireland	0,0	0,0
Italy	0,0	0,0
Japan	0,0	9,1
Luxembourg	0,0	0,0
Netherlands	5,4	0,0
New Zealand	-	100,0
Norway	0,0	0,0
Spain	0,0	0,0
Sweden	2,7	-2,8
Switzerland	0,0	13,3
United Kingdom	0,0	0,0
United States	-	100,0
Total	2,1	27,1

Source: OECD/DAC's International Development Statistics, DAC online, Creditor Reporting System, dataset 1, [www.oecd.org/dac/stats/idsonline](http://www.oecd.org/dac/stats/idsonline)

Moreover, in column (2), we separate disbursed and received aid into technical assistance, general budget support and other forms of aid. We noted earlier that the role for general budget support has increased in recent years. As mentioned in the data section, GBS is only available on commitment basis, so data may contain significant measurement errors. Keeping this in mind, our results suggest that GBS tend to favour donor countries somewhat but received GBS does not increase Ugandan exports to donors.

<sup>27</sup> Germany is another fairly large donor and has a relatively large proportion of their aid tied. Also excluding Germany do not change our results.

<sup>28</sup> The table only covers grant aid. A significantly higher percentage of bilateral loans to Uganda are likely to be tied. However, in aggregate these play a minor role. For 2004 there were only records of bilateral loans from two bilateral donors to Uganda (Norway and Spain).

**Table 3: Results from the gravity equation.**

	(1)	(2)	(3)
lnGDP_i	0.463*** (0.093)	0.423*** (0.088)	0.423*** (0.088)
lnGDP_e	0.969*** (0.12)	0.983*** (0.12)	0.984*** (0.12)
lnGDPc_i	0.249* (0.13)	0.239* (0.13)	0.238* (0.13)
lnGDPc_e	0.00425 (0.12)	-0.000789 (0.11)	-0.00153 (0.11)
Ln Distance	-1.370*** (0.25)	-1.371*** (0.25)	-1.372*** (0.25)
Contingency	2.619*** (0.59)	2.607*** (0.59)	2.606*** (0.59)
Colony	1.473** (0.58)	1.304*** (0.48)	1.320*** (0.48)
Common colonizer	0.889*** (0.30)	0.904*** (0.30)	0.904*** (0.30)
Ln Aid_given (-1)	0.0814*** (0.026)		
Ln Aid_received (-1)	0.0806* (0.044)		
Ln Other Aid Given (-1)		0.0934*** (0.022)	0.101*** (0.025)
Ln Technical Assistance Given (-1)		-0.0158 (0.027)	-0.0222 (0.028)
lnGeneral Budget Support Given (-1)		0.0275* (0.016)	
Ln Other Aid received (-1)		-0.0326 (0.058)	-0.0318 (0.064)
Ln Technical Assistance received (-1)		0.155** (0.062)	0.155** (0.066)
lnGeneral Budget Support received (-1)		0.00221 (0.035)	
Constant	-10.97*** (3.55)	-10.27*** (3.57)	-10.31*** (3.56)
Observations	797	797	797
R-squared	0.49	0.50	0.50

Dependent variable is log of exports. Every regression includes year dummies (not reported).

Robust standard errors, clustered on countries, in parentheses.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

We also find that the money equivalent of technical assistance provided does not seem to influence exports. This might be expected since the bulk of the cost for technical assistance provided probably never enters the trade balance.<sup>29</sup> On the other hand, we could expect technical assistance to have a positive effect on exports if donor country representatives in Uganda act as "donor country ambassadors", actively promoting business from their home

<sup>29</sup> Services carried out in a recipient country by donor country representatives could be regarded as export of services. However, trade statistics is normally based on actual transfers of payments across borders. In the case of TA we suspect that a relatively large share is carried out by consultants from the donor country. When these consultants bill the contractor it, will be a domestic transaction in the donor country and hence never occurs in trade balance. When, on the other hand, the funds for TA and is first transferred to the recipient country and the recipient country government commissions expatriate consultants this will register in the trade statistics.

country. This does not seem to be the case. Instead, types of aid other than technical assistance drive this relation. Focusing on aid received, forms of aid that is not technical assistance does not seem to influence Ugandan exports. Mavrotas et al (2003) found a negative short run effect of technical assistance on economic growth. The longer run impact was however found to be positive. We find technical assistance to have a small positive (statistically significant at the 5% level), impact on bilateral exports. One interpretation could be that the donor country representatives in Uganda facilitate market access to their home country rather than vice versa. Finally, column (3) presents results without the potentially faulty GBS variable (GBS is now contained in respective Other Aid variable). This does not change any of the results.

### **Trade gap analysis**

Another way to go about the analysis of the impact of aid on trade would be to follow Kokko *et al.* (2006) who use the parameter estimates from a standard gravity model and calculate the predicted trade for Vietnam on the basis of these parameters. Actual trade ( $T^a$ ) is related to predicted trade ( $T^p$ ) in an actual-predicted trade ratio variable ( $T^a/T^p$ ). This actual-predicted trade ratio is then related to aid. Kokko *et al.* did not obtain any significant parameter estimates in their analysis of the trade-aid linkage in Vietnam. We arrive at a similar conclusion when applying this methodology to Ugandan exports. A fuller discussion of this trade gap analysis is found in Appendix B.

### **Concluding remarks**

Development cooperation has played an important role for both Uganda's export and import. Starting with import, the most obvious result of ODA is that it has made a substantially larger import possible than would have been the case without ODA. It is not only the volume of different forms of aid that has an impact on Uganda's trade, but also the policy dialogue has been important. The donors influence for the reformation of coffee and cotton marketing paved the way for increased export earnings and increased incomes for the rural poor when world market prices increased in the mid 90s. The coffee-boom effect was an important factor behind the decrease in poverty during the 90s.

Since the 80s Uganda liberalized its trade significantly and reduced distortionary taxes and custom duties. Likewise, Uganda, together with its development partners, made efforts to reduce the distortionary practices and increase the effectiveness of development cooperation. Of course, the activities that are financed with ODA will benefit from reduced trade distortions which will result in increased allocation efficiency. However, this potential will be fully realised only if aid is un-tied and delivered in an efficient way.

Official development assistance to Uganda finances a large number of measures to improve the general climate for doing business as well as specific sectors. Many of them are well targeted, while others may be amended. It may be true that the enormous amount of aid to promote agro-food exports should have been more focused on quality management and that there is need to develop standards to improve export competitiveness. However, regardless of whether financing is targeted at investment in physical infrastructure, specific sub-sectors or knowledge transfer, aid today finances around 50 per cent of the government budget. Since

there is an agreement on the principle to move to more of GBS, the question is not so much whether aid policies are consistent with trade policies as whether government priorities are consistent with them. The role of aid would then be to support the government in its efforts to develop and implement coherent, trade-promoting policies. The government and donors subscribe to the PEAP principles, including an increase in untied budget support, ending of individual, parallel country programmes and stand-alone projects. In this respect, policies are coherent in principle.

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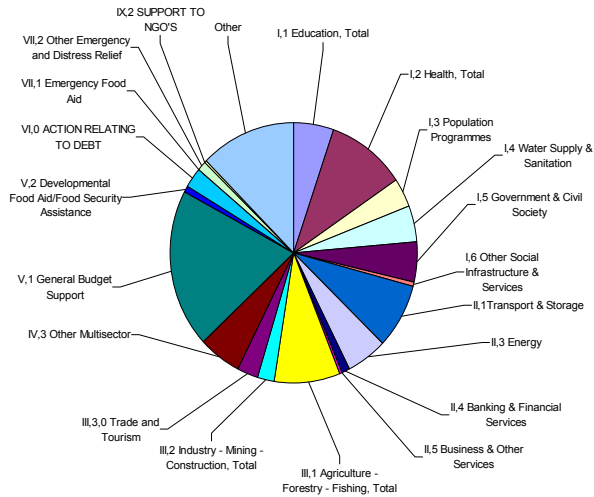
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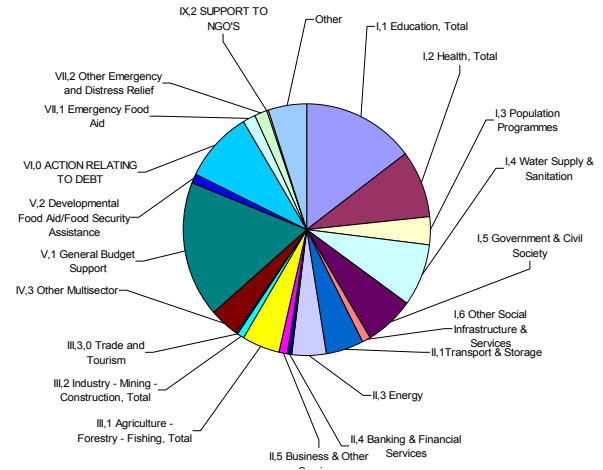
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## Appendix A: Aid commitments disaggregated

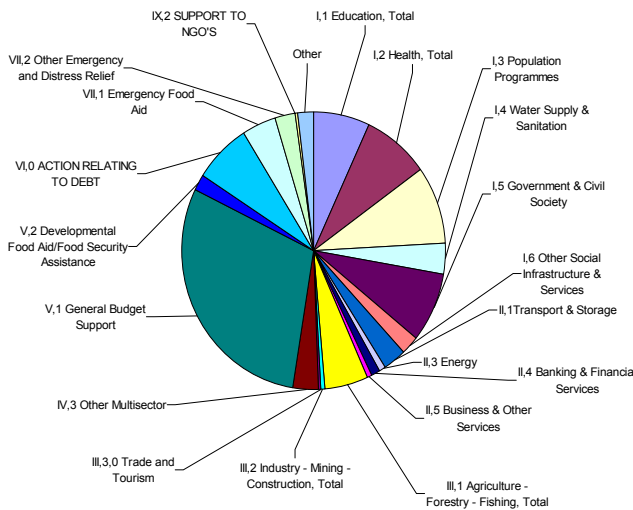


**Figure A1: Distribution of committed ODA (grants) 1990 – 1994.**



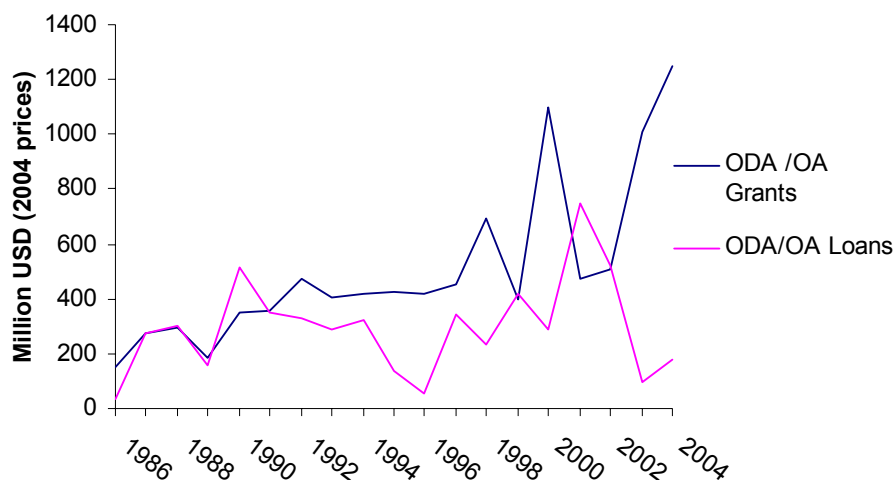
**Figure A2: Distribution of committed ODA (grants) 1995 – 1999.**

Source: OECD/DAC's International Development Statistics, the Creditor Reporting System, dataset 1 (labels are preceded by DAC sector codes), [www.oecd.org/dac/stats/idsonline](http://www.oecd.org/dac/stats/idsonline).



**Figure A3: Distribution of committed ODA (grants) 2000 – 2004.**

Source: same as above.



**Figure A4: Grants and loans commitments**

Source: OECD/DAC's International Development Statistics, the Creditor Reporting System, dataset 1, [www.oecd.org/dac/stats/idsonline](http://www.oecd.org/dac/stats/idsonline).

## Appendix B: Trade gap analysis

In this section, we follow the methodology of Kokko *et al.* (2006) in their study of Vietnam. They use predicted trade from a world wide gravity model without aid from Tumbarello (2006). Kokko *et al.* run a regression of the ratio of actual to predicted trade for Vietnam on ODA flows and some more control variables. It might appear strange first to exclude aid from the empirical model and in a second step relate it to trade.<sup>31</sup> One reason for this could be that the number of positive observations of aid in a large worldwide data set is too small for the variation to matter. Another is that the effect of aid flows on trade need not be homogeneous. While the effect from distance, for example, may be expected to be universal (and hence one of the “fundamental” determinants of bilateral trade), aid may have a negative effect in one country and a positive effect in another. This is one reason for our choice of using a Uganda specific sample in the main section. In this section we follow Tumbarello in estimating a standard gravity equation for a global sample for 2002 (variables explained in main text<sup>32</sup>):

$$\ln Exports_{ij} = Gravity_{ij} + \varepsilon_{ij} \quad (2)$$

Our specification differs from Tumbarello in some regards. We use the log of exports as our dependent variable, while she uses the log of total bilateral trade. Tumbarello also uses a much more parsimonious model.<sup>33</sup> Results from OLS estimation of equation (2) is presented in Table B1. Coefficient estimates, where comparable, are very similar to those in Tumbarello (2006).

<sup>31</sup> Formally, using the notation in this section, they regress the ratio  $T^a/T^p$  on the log of total ODA and controls.

<sup>32</sup> In our coding of regional trade arrangements (RTA), we considered: AFTA, ANDEAN, APEC, BA, CARICOM, CEFTA, CEMAC, COMESA, ECOWAS, EEA, EFTA, GCC, MERCOSUR, NAFTA, SACU, SAPTA and SPARTECA.

<sup>33</sup>  $\ln Trade_{ij} = \beta_0 + \beta_1 \ln[GDP_i * GDP_j] + \beta_2 \ln[gdppc_i * gdppc_j] + \beta_3 \ln Distance_{ij} + \beta_4 RTA_{ij} + \varepsilon_{ij}$

**Table B1: Gravity OLS-regression. Global sample of exports for year 2002.**

COEFFICIENT	lnexpValue
lnGDP_e	1.151*** (0.040)
lnGDP_i	0.806*** (0.017)
lnGDPc_e	0.0592 (0.053)
lnGDPc_i	0.0891*** (0.021)
lnDist	-1.186*** (0.065)
Contig	0.876*** (0.16)
comlang_off	0.608*** (0.11)
Colony	1.056*** (0.19)
Comcol	0.913*** (0.14)
RTA	1.058*** (0.15)
Constant	-23.79*** (1.16)
Observations	14765
R-squared	0.68

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Having obtained predicted levels of exports for Uganda we relate the ratio of actual to predicted exports to the flow of official development assistance. A ratio larger (smaller) than 1, that is a positive (negative) trade gap implies that Uganda exports more (less) to that country than predicted by the gravity model. In other words, we search for a relation between unrealized trade potentials (the trade gaps) and aid flows. It is important to clearly spell out what we believe we can or cannot say with this exercise. We do not have any prior expectation about the sign of the correlation between aid flows and the trade gap. In fact, any possible correlation between the two (i.e. positive, negative or no correlation) can be interpreted as a sign of coherent policies since they can be explained in at least two ways each:

***The ratio  $T^a/T^p$  has a positive correlation with ODA:*** Aid has a positive effect on bilateral export flows. ***Or:*** Aid is given as a reward for intense trade. ***Or:*** Aid and exports move together due to bilateral links not fully captured by the gravity model.

***The ratio  $T^a/T^p$  has a negative correlation with ODA:*** Aid has a negative effect on bilateral export flows or donors tend to give aid instead of opening up trade. ***Or:*** Aid works as an insurance device: negative export shocks are cushioned by aid inflows.

**The ratio  $T^a/T^p$  is not correlated with ODA:** Bilateral aid have no relation to bilateral trade on average. However, from this, we cannot infer that aid have no effect on exports. Bilateral exports may of course have a number of potential positive or negative third party effects. Bilateral aid may help increase trade between Uganda and third party countries, and maybe non-proportionally so in neighbouring countries (think of aid to infrastructure facilitating border trade and note that the quality of infrastructure is not included in the gravity model). **Or:** Aid is complementary to exports in that, while aid has no direct relation to trade, aid is allocated to sectors and areas that the benefits of export expansion do not reach). **Or:** Dutch disease effects of aid may affect third-party trade negatively, while not affecting the bilateral trade relation. Hence, a no-correlation between the bilateral flows may say little about the overall effect of bilateral aid on aggregate exports.

We use the coefficient estimates from Table B1 to predict the bilateral export potential for Uganda vis-à-vis its trading partners for the years 1998-2002 (128 countries in an unbalanced panel of 406 observations). Ratios between actual and predicted exports ( $T^a/T^p$ ) for each country-year are tabulated below for aid donor countries. Ugandan actual to predicted exports to some donor countries (in particular The Netherlands and Switzerland) are underpredicted by magnitude (alternatively, Uganda largely “overtrades”) while for others (e.g. Denmark, Ireland, Sweden) being much smaller than predicted. For example, in 2000, Uganda’s export to Switzerland was almost 65 times larger than predicted by the gravity equation while Uganda’s export to Ireland the same year resulted in a ratio of 0.01.

**Table B2: Trade gaps, donor countries and means.**

	1998	1999	2000	2001	2002
Australia	2.09	6.85	4.11	4.03	3.1
Austria	0.05	5.26	0.12	0.47	0.08
Belgium		3.48	1.67	14.16	17.38
Canada	0.39	0.31	0.04	0.38	0.32
Denmark	0.17	0.18	0.62	0.21	0.92
Finland				0.01	
France	3.45	2.43	0.5	0.83	1.27
Germany	2.41	2.14	0.99	2.15	1.92
Ireland	0.96	0.02	0.01	0.06	0
Italy	0.98	1.3	0.37	0.97	0.99
Japan	0.59	2.65	1.1	1.33	2.29
Netherlands	23.01	9.16	18.95	30.18	29.33
New Zealand				0.08	0.03
Norway	4.61	9.61	1.62	0.79	1.13
Poland	4.04	15.41	0.5	0.31	0.68
Rep. of Korea		0.05	0.08	0.25	0.01
Sweden	0.09	0.07	0.02	0.36	0.11
Switzerland	24.2	14.25	64.64	48.56	43.23
USA	1.02	0.37	0.35	0.29	0.38
United Kingdom	1.74	3.05	1.37	1.1	1.05
<b>Total*</b>					
Donors	2.42	2.53	2.25	2.44	2.5
Largest 37	1.95	2.27	2.05	2.43	2.43
Full sample	1.85	1.95	1.81	2.05	1.99

\* Total ratio refers to the ratio of total levels for respective sample ( $sumT^a/sumT^p$ ) and not to the average of the countries’ ratios.

The three last rows of Table B2 show the actual-predicted gap for the aggregate of, in turn, donor countries, the 37 countries with the largest import from Uganda and the full sample. Interestingly, the trade gap is always larger than one, implying that Uganda on aggregate exports far more to its existing export markets than what is predicted from the gravity model. Apparently, the ratio is highest for the donor countries. Hence, in general donor countries do tend to import more from Uganda in relation to what would be expected from a gravity model. This supports our main finding concerning received aid and Ugandan exports (see Table 3).

## Relating trade gaps to aid

We stated earlier that we did not have a specific prior about the sign of the correlation between bilateral trade flows and bilateral aid flows. The simple correlations between the trade ratio as well as the actual and predicted export levels and the flow of development aid are presented for every year as well as aggregated in Table B3.<sup>34</sup>

Focusing on the relation between aggregate measures (rightmost column of Table B3), the correlation between the volume of aid disbursed and estimated potential, as well as actual, exports is positive (and significant) while the correlation with actual-predicted ratio is insignificant. In sum, using this methodology, we do not find any evidence for aid to Uganda to affect the trade gap.

How can we explain that aid (and in particular TA) is correlated with export in our estimation of equation 1 (see Table 3) when we control for the typical gravity variables but we fail to identify any correlation between aid and the actual-predicted trade ratio in this section? This is maybe most easily explained if we drop aid given, *Aidg*, from our equation (1) and rewrite it as:

$$\ln(\text{Export}_{it} / \exp(\text{Gravity}_{ijt})) = \beta_{11} \ln \text{Aid}_{ijt-1} + \varepsilon_{ijt} \quad (3)$$

which is basically our gap-model. While the exclusion of *Aidg* may introduce omitted bias, probably most important is the fact that we use a worldwide sample to obtain the parameters used in our calculation of *Gravity*. Hence the parameter estimates from the global sample is not representative for Uganda.

**Table B3: Correlation between the log of aid and different export measures.**

	1998	1999	2000	2001	2002	Overall:
Ratio, ( $T^a/T^p$ )	-0.11	-0.06	0.17	0.07	0.06	-0.04
Log ratio, $\ln(T^a/T^p)$	-0.07	0.21*	0.07	0.09	0.10	0.08
Log actual level of exports	0.31***	0.40***	0.33***	0.37***	0.34***	0.35***
Log predicted level of exports	0.43***	0.42***	0.42***	0.41***	0.42***	0.42***
Number of destination countries	70	75	71	90	100	406

<sup>34</sup> We present correlations for both the ratio between actual and predicted trade ( $T^a/T^p$ ) as well as the log ratio ( $\ln T^a/T^p$ ). The latter is identical to the prediction errors for the Ugandan observations. Kokko et al. (2006) use ( $T^a/T^p$ ).