Leveraging Aid for Trade Capacity in Uganda

Alex Thomas Ijjo, Isaac Shinyekwa

Abstract:

The hindrances to the gainful participation of least developed countries (LDCs) in international trade are predominantly domestic supply related constraints rather than foreign market access. These constraints include variable productive capacity, economic infrastructure bottlenecks, and inability to meet international quality standards. In recognition of such challenges facing LDCs, the World Trade Organization (WTO) launched the "Aid for Trade" (AFT) initiative in 2005 to coordinate international support for strengthening trade capacity in LDCs. Looking at the case of Uganda, we initially examine the role of overall Official Development Assistance (ODA) in driving Uganda's external trade and then specifically that of AFT in strengthening national trade capacity. Although we find reasonable alignment between aid and national development priorities, there is, as yet, very little evidence of a robust aid impact especially on export capability vis-à-vis that of import. The paper underscores persisting deficiency in Uganda's capacity to meet internationally accepted standards and to ensure stability and consistency in export supplies. While we note the development of some capacity in trade policy formulation and the mainstreaming of more relevant trade strategies into the country's National Development Plan (NDP) with aid support, we recommend that future aid support be directed into unlocking the crippling constraints in Uganda's productive capacity, standards development, economic infrastructure and sound trade policy analysis and formulation.

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Keywords: Aid for Trade, Official Development Assistance, Liberalization, Co-integration, Enhanced Integrated Framework, Competitiveness

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Acronyms

AAA	=	Accra Agenda for Action		
ADI	=	African Development Indicators		
AFT	=	Aid for Trade		
AGOA	=	African Growth Opportunity Act		
CRS	=	Creditor Reporting System		
DAC	=	Development Assistance Committee		
DTIS	=	Diagnostic Trade Integration Study		
EBA	=	Everything But Arms		
EIF	=	Enhanced Integrated Framework		
EU	=	European Union		
FMA	=	Foreign Market Access		
GATT	=	General Agreements on Tariff and Trade		
GDP	=	Gross Domestic Product		
GIS	=	Geographical Information System		
GNI	=	Gross National Income		
IF	=	Integrated Framework		
IITC	=	Inter-institutional Trade Committee		
ISO	=	International Organization for Standardization		
JICA	=	Japan International Cooperation Agency		
MDA	=	Ministries Departments Agencies		
MDGs	=	Millennium Development Goals		
NDF	=	Nordic Development Fund		
NES	=	National Export Strategy		
NTP	=	National Trade Policy		
NTSDP	=	National Trade Sector Development Plan		
ODA	=	Official Development Assistance		
OECD	=	Organization for Economic Cooperation and Development		
PD	=	Paris Declarations		
REER	=	Real Effective Exchange Rate		
RER	=	Real Exchange Rate		
SC	=	Supply Capacity		
SCT	=	Single Customs Territory		
SSA	=	Sub Saharan Africa		
ТВ	=	Trade Balance		
UBOS	=	Uganda Bureau of Statistics		
UEPB	=	Uganda Export Promotion Board		
UNCTAD	=	United Nations Conference on Trade and Development		

UPTOP	=	Uganda Program for Trade Opportunities and Policy
WB	=	World Bank
WDI	=	World Development Indicators
WTO	=	World Trade Organization

1. Introduction

Trade liberalization is considered to be instrumental in raising the level of trade between countries. At multilateral level liberalization has been pursued for more than six decades initially under the auspices of the General Agreements on Tariffs and Trade (GATT) and now under the World Trade Organization (WTO). In addition, over the last three to four decades, many developing countries have implemented World Bank and IMF sponsored market oriented reforms to enhance the role of market forces in their respective economies. It quickly became evident however that many least developed countries (LDCs) lack the capacity to gainfully participate in global trading within such liberal framework due especially to a wide range of supply related capacity constraints including unstable productive capacities, deficient market infrastructure and inability to meet requisite quality and standards (WTO 2005).

1.1 Background to Aid for Trade

Awareness of the supply capacity related challenges in LDCs is not new; indeed since its creation in 1964, UNCTAD has provided trade-related capacity building support to LDCs to assist them to effectively integrate into the international trading system (UNCTAD 2008). In a renewed recognition of the critical role of trade capacity for trading in a liberal trade environment, the WTO at its Hong Kong Ministerial Conference in 2005, launched the "Aid for Trade" (AFT) initiative to coordinate international support for strengthening trade capacity specifically in LDCs. The WTO Task Force formed in 2006 to operationalize the AFT recommended the following objectives for the AFT initiative:

- Enable developing countries, particularly least developed countries, to use trade more effectively to promote growth, development and poverty reduction and to achieve their development objectives, including the MDGs;
- (2) Help facilitate developing countries, particularly LDCs to build supply-side capacity and trade-related infrastructure in order to facilitate their access to markets and to export more;
- (3) Help facilitate, implement and adjust to trade reform and liberalization;
- (4) Assist countries' smooth integration into the world trading system; and
- (5) Assist in the implementation of trade agreements.

Aid for trade refers to the component of Official Development Assistance (ODA) that goes to support "activities identified as trade-related development priorities in the recipient country's national development strategies". Official Development Assistance (ODA) represents official flows to LDCs for the purpose of promoting economic development and welfare and conveys a 25 percent grant element at discount rate of 10 percent. Over 90 percent of ODA originates from Development Assistance Committee (DAC) countries of the Organization of Economic Cooperation and Development (OECD). The key focus areas of AFT are the following:

- Capacity building in trade policy formulation and regulation;
- Economic infrastructure development;
- Building productive capacity and trade development;
- Building capacity in multilateral trade negotiations;
- Implementation and compliance with WTO agreements and rules;
- Mitigation of adjustment related costs;
- Any other trade related activity.

To realize the above objectives, the AFT initiative particularly aimed to mainstream trade into the development policy of LDCs and contribute toward the formulation of trade strategies that would create the necessary conditions to stimulate export volumes, export value added, and export diversification by domestic firms. In addition, the AFT initiative is envisaged to be instrumental in encouraging export-oriented inward FDI with job creation potential. Thus, the initiative sought to empower LDCs to participate and benefit from institutional arrangements, negotiations and processes that shape national trade policy and international trade rules and practices. Ultimately under appropriate intervention conditions AFT is expected to increase LDC trade flows in general and export volumes in particular. Between 2009 and 2012 a total of nearly US\$ 1 billion was disbursed to Uganda by multilateral and bilateral development partners under the AFT initiative (Table 1).

Donor	Amount (USD)	% of Total
ADF(ADB)	319,748,339	33.1
IDA (WB)	279,431,863	28.9
Norway	124,423,810	12.9
EU	105,192,656	10.9
China	45,396,762	4.7
GEF	34,095,959	3.5
IFAD	32,865,614	3.4
Japan	10,766,752	1.1
Denmark	6,531,058	0.7
Sweden	6,423,797	0.7
NDF	1,458,333	0.2
Egypt	15,000	0.0
Total	966,349,944	100.0

Table 1. Aid for trade	e disbursements to	Uganda by	source 2009-2012
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Source: MOFPED

The objectives of the AFT initiative also reflect the multidimensional, multi-sectoral nature of trade. Specifically the interventions envisaged under AFT include support for physical trade infrastructure such as roads, ports, telecommunications, energy and electricity, transport systems, water supply and sanitation; support for trade enabling institutions such as customs, trade finance, marketing and distribution facilities; the strengthening of productive capacity for trade; and support toward adjustment costs incurred by enterprises and households in trade and trade policy regulation. The multi-sectoral reach of the AFT initiative is clear in the sectoral breakdown of the recent disbursements to Uganda shown in table 2.

Sector	Amount (USD)	% of Total
Agriculture	187,044,631	19.4
Energy	294,997,521	30.5
ICT	47,540,986	4.9
Tourism and Trade	12,823,142	1.3
Works and Transport	423,943,665	43.9
Total	966,349,944	100.0

Table 2: Aid for trade 2009-2012: sectoral breakdown

Source: MOFPED

A primary indicator of growth in trade capacity is the performance of the export subsector which reflects the level of competitiveness attained by firms in the domestic economy in relation to quality, productivity, and consistency of supply. On the other hand, imports are largely driven by growth in domestic incomes, foreign exchange availability, real effective exchange rate and domestic tastes and preferences. Although capital inputs importation is critical to the competiveness of the domestic economy, success in the development of domestic trade capacity is primarily seen in terms of the growth of "export" competitiveness rather than the flow of "imports" into the country.

The weak supply related capacity that is characteristic of many LDCs is evident in looking at Uganda's external trade sector performance. Imports have consistently outstripped exports in the last four to five decades and as a result the country has run a widening trade deficit. Export growth and diversification are relatively low and much of the concessional market opportunities such as the EU's Everything but Arms (EBA), and the US's African Growth and Opportunity Act (AGOA) are largely unexploited (Muhwezi, 2013, Mevel *et al* 2013). Uganda's total formal and informal exports reached US\$ 2.5 billion and imports US \$ 5.6 billion in 2011 (UBOS 2012). While both exports and imports have grown year on year, growth in the exports has been generally weaker with a visible decline in the trade balance especially from 2009 to date (UBOS 2012).

Uganda's weak external trade sector performance is evidence of the supply related capacity constraints that affects many LDCs. Thus, the development of export capacity and competitiveness remains an outstanding challenge for many LDCs. In view of this, it has become important to examine

the role of the key drivers of external trade competitiveness including external assistance targeted into the trade sector. In addition to this and the complexity of the effects of aid flows on LDC economies, UNCTAD recognized the need for "more in-depth country level analysis of aid for trade" (UNCTAD 2008). Apart from reviews of the AFT interventions at multilateral level and occasionally at country levels, the World Bank's Diagnostic Trade Integration Studies (DTIS) of 2006 and 2013 in Uganda, and the case study of aid for trade in Kenya, Tanzania and Uganda by PricewaterhouseCoopers (2009), very little else appears to have been done to evaluate the performance of AFT at country level. This study attempts to fill some of that void.

1.2 The Paris Declaration Principles

Aid has been and continues to be controversial not least in regards to its effectiveness to deliver growth and development in recipient countries. The Paris Declarations (PD) principles of 2005 are aim at enhancing aid effectiveness and are premised on decades of aid-related experience. The PD principles not only aim to ensure aid effectiveness but also mutual accountability on the part of recipients and donors. These PD principles include "national ownership" of the development strategies, proper "alignment" of aid to national development priorities, the "harmonization" of aid effort by development partners, "result orientation" in the management of aid and mutual "accountability" of aid recipients and their development partners. The PD principles were further buttressed by the Accra Agenda for Action (2008) and the Bussan Partnership for effective development cooperation (2011).

1.3 Policy Questions

This paper examines three basic policy questions, namely: how are the key aid for trade areas of focus aligned to Uganda's national development priorities? Two, are there tangible aid driven impacts on Uganda's capacity to trade? And three, how can the complementarity between the AFT initiatives and Uganda's national development priorities be enhanced for greater positive impact on the country's trade capacity and competitiveness?

1.4 Study Objectives

The aim of this paper is to examine the contribution of aid and especially AFT in strengthening Uganda's trade capacity. Specifically the study examines: trends in the amount and structure of Official Development Assistance (ODA) in general and aid for trade (AFT) in particular so far directed into Uganda; the contribution of ODA to Uganda's external trade through the estimation of econometric models of export, import and trade balance with ODA as one of the explanatory variables; the achievement of the AFT interventions in relation to the strengthening of Uganda's trade capacity in the framework of the PD criteria for aid effectiveness; policy options for enhancing the complementarity between aid and national priorities for greater positive impact on development outcomes.

1.5 Justification for the study

Evidence of aid effectiveness is far from conclusive. Despite the latter, *a priori* expectation that aid should positively impact economic growth continues to persist. Neoclassical theory in particular sees aid as one of the options for filling the two gaps – savings and foreign exchange that usually constrain investment and growth in low income countries. This inconclusiveness may be due to lack of impact or our inability to capture robust evidence of impact. In fact capturing robust evidence of aid impact has been more elusive than presumed.

However in view of the AFT initiative taken in the framework of Paris Principles, the Accra Agenda for Action and the Bussan Agreement for Development Cooperation all aimed at redesigning the aid architecture for more effectiveness, a revisit of the aid effectiveness debate therefore seems warranted. Using World Bank data and focusing on the specific case of Uganda, we examine the impact of aid on Uganda's trade capacity by estimating an error correction model for Uganda with GDP growth as the dependent variable and aid as one of the explanatory variables.

Evidence of aid effectiveness is important for aid givers and recipients alike. It constitutes an important plank in the accountability to the electorate and tax payers in recipient and donor countries respectively in accordance with the PD criteria (OECD 2005). Evidence of aid "ineffectiveness" on the other hand may signal the need for the elimination of aid (Moyo 2009) or its reconceptualization and redesign (Easterly, Levine and Roodman 2000, Burnside and Dollar 2000).

The analysis of the effectiveness of the AFT initiative is also necessary in mapping out the causal chain between specific AFT interventions and their impacts. This is useful in determining the most effective policy measures and complementarities between different policy measures. This paper attempts to throw light on policy measures likely to be effective in maximizing the positive impact of AFT in Uganda.

2. Review of Literature

In the wake of classical arguments of mutual benefit, trade has come to constitute a critical component especially in neoliberal growth perspective. There is a wealth of research and information on the "positive effects" of trade openness on growth and development (Wacziarg and Welch 2003, Sachs and Warner 1995, Rodriguez and Rodrik 2000), yet relatively little on the requisite conditions to insure the positive or beneficial effects of market liberalization especially in developing economies.

The central argument that trade has the potential to mutually benefit participating countries is now largely uncontested. An immediate question however is whether this assertion has largely remained a mere unattainable wish in the case of LDCs. Although market liberalization is seen as a necessary

means for realizing such a mutually beneficial trade, its sufficiency for translating trade potential into tangible benefit has increasingly come under question in the case of LDCs.

Indeed in the course of the liberalization effort through GATT and WTO at multilateral level and through the IMF and WB in a wide range of countries, the gross incapacity of LDCs to effectively and gainfully participate in international trade due to domestic supply related constraints became clear. These constraints include low and fluctuating productive capacities, deficient trade infrastructure, inability to meet requisite quality standards and others. Under such conditions liberalization only leads to unsustainable consumption, fall in capacity utilization or outright de-industrialization in case of failure to compete. Such challenges have been instrumental in establishing the concept of trade-specific development assistance as an integral part of any trade policy reform effort to insure meaningful participation in trade by least developed economies (UNCTAD 2008).

It should be pointed out that neither the concept of AFT nor the money is new. AFT represents part of Official Development Assistance (ODA) going into "trade facilitation". The UNCTAD report (2008: 1) says "As part of the development component of the United Nations system, UNCTAD has since its creation in 1964 provided trade-related and capacity-building support, namely, aid for trade - to developing countries and countries with economies in transition to effectively integrate into and realize development benefits from the international trading system". Accordingly a significant part of ODA targeted in LDCs even before the official launch of AFT initiative qualifies to be categorized under the concept of AFT.

Granted that trade is potentially mutually beneficial, a related question is whether aid driven trade facilitation has boosted trade between countries. Using OECD creditor reported aid data, Helble, Mann and Wilson (2009) find a positive impact on the level of trade flows from aid disbursements for trade facilitation. They find that a 1% increase in aid targeted into trade policy reform and regulation (USD 11.7 million) could generate USD 818 million worth of trade flows. Trade facilitation which aims to reduce the cost of trade especially through reforms in regulation policy and customs procedures represents an important component of AFT.

Aid for Trade is, as it were, an attempt to "level the trade playing field" so that all countries including the least developed countries can benefit from international trading. Rajan and Subramanian (2005:4) point out the moral imperative of foreign aid especially if "relatively small transfer of resources from rich countries" could set the poor countries on a growth path. The same spirit is reflected in the Millennium Declaration of world leaders in New York in 2000 – "we will spare no effort to free our fellow men, women and children..." In addition political economists would point out the moral imperative, especially on former colonial masters, to assist former colonies in order to redress some of the ravages of exploitative colonial relations in the 19th and 20th centuries.

The potential of foreign aid as an instrument to accelerate development in other countries came to the fore in the wake of the Marshall Plan (1947) involving US financial support for the reconstruction of post-war Europe, Big Push theories of economic development (1950s), Recent Millennium Development Declarations (2000) and calls for the attainment of clearly defined millennium development goals (MDGs); the 2005 Paris Declaration (PD) on aid effectiveness; the 2008 Accra Agenda for Action (AAA); and the Bussan meeting on aid effectiveness in South Korea in 2011.

In spite of the above declarations, many questions continue to haunt foreign aid, not least questions like: who gives aid to who and for what purpose? (Woods 2008). How effective is foreign aid in delivering growth and poverty reduction in the recipient countries? What conditions influence the effectiveness of aid support? How serious and likely are risks of "aid trap" and aid related "Dutch Disease" in recipient countries and how may they being avoided? What policy best practices are there in targeting and managing aid? And how about the effects of policy conditionality associated with aid?

In view of these myriad of questions, an associated body of literature on aid effectiveness has grown enormously in the last two decades. Doucouliagos H and Paldam, M (2008) review this body of literature. Their main conclusion from the synthesis is that while the overall effect of aid on the economy appears to be positive on average, this has unfortunately been persistently insignificant statistically and declining.

Although the *a priori* expectation of aid impact on the economy seems to be generally positive, direct negative effects especially of excessive aid inflows are possible. For example in the short-run, massive aid inflows into a country can lead to Dutch Disease, which refers to the appreciation of the domestic exchange rate along with the associated decline in competitiveness especially of traditional sectors with adverse effects on the balance of payments. Adam and Bevan (2006) find evidence of long run supply side effect of aid beyond Dutch Disease especially through aid funded public infrastructure expenditure. They find that aid driven infrastructure investments tend to generate productivity spillovers in the supply side of the economy.

Although much of the theoretical literature relate to the rationale for aid and how to ensure its effectiveness basically taking the potential benefit of aid as given, there are some that have questioned even the latter. One of the strongest criticisms of aid is by Moyo (2009) who sees aid as an "unmitigated political, economic and humanitarian disaster". According to Moyo, aid has fueled dependency and corruption in poor countries. She argues that open ended aid commitments confer "entitlement" to recipient country leaders and undermine democratic accountability to local electorate and subsequently the perpetuation of corrupt regimes in power. Nunn and Qian (2012) make a similar point in warning that aid can indeed be detrimental to developing countries without "accountable governance". Furthermore Mosley (1987) finds no robust relationship between aid and growth.

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Arguably one of the most influential papers on the effect of aid on growth however, is that of Burnside and Dollar (2000) who report that in a good domestic policy environment, foreign aid does appear to have significant positive effect on growth. Further studies on the aid-growth relationship however questioned the robustness of the positive relationship between aid and growth suggested by Burnside and Dollar (see for example, Easterly, Levine and Roodman 2000; Boone 2006). Rotarou and Ueta (2009) find a positive ODA impact on GDP growth though not poverty reduction. Probably on the basis of such studies, Sachs (2005), who represents one of the strongest voices in support of foreign aid, called for more than a doubling of aid from US\$65 billion in 2005 to US\$135 billion in 2006.

Aid for trade is premised on the potential for mutually beneficial trade. However, there is need to review the available evidence on the experience of liberalization and growth, in general and the effect of AFT on trade in particular. The UNCTAD "Trade and Development Report" 2007, concluded that trade liberalization, while necessary, is not a sufficient condition for growth in trade. The report found evidence of the positive effect of regional trade liberalization on the subsequent integration of countries into the wider global economy. The report argues that factors, such as transport connectivity appear to be even more important in the growth of trade and competitiveness. Indeed Francois and Manchin (2007) observed that transport infrastructure seems more important in explaining trade growth than tariff reductions, thus underscoring the critical role of NTBs vis-à-vis tariff barriers. This finding agrees with UNCTAD (2008) which put emphasis on domestic "supply capacity" (SC) as opposed to "foreign market access" (FMA) as the key factor in LDC trade.

UNCTAD (2007) however reports mixed results for liberalization effort in many less developed economies, a number of which "remain marginalized from international trade, attract limited foreign investment, and are stuck in the supply of a limited range of primary goods and services". As its aim for the Fourth Global Review of Aid for Trade, the WTO therefore proposed to examine strategies to link developing country firms to international value chains, assist them move up the value chain, and examine the attendant development benefits in the context of the debate about the post 2015 development agenda.

According to UNCTAD (2008), there are however a number of notable successful experiences of the positive effect of aid on trade and growth. The report echoes the need for the right conditions for aid to provide a "strong impetus" to trade and growth. The report cites examples from Asian economies such as Japan, the Republic of Korea, Taiwan, especially between 1950 and 1970s along with more recent strong Asian performers. The above view is also espoused by Hoekman and Olarreaga (2007) who have argued that for aid to have a consistent positive effect on trade, it must be combined with complimentary policy measures that create an "enabling environment". In addition, Hoekman and Njinkeu (2007) argue that the efficacy of aid is enhanced when it is targeted into sectors which represent the comparative advantages of the recipient countries. This finding underscores the importance of developing competitiveness in sectors of comparative advantage.

The preceding arguments suggest that the positive impact of development assistance is not a given. Much of the thinking seems to concede that external financial support can play a positive role in growth and development but only as part of a well-thought-out development strategy in the context of accountable governance. If the latter premise is accepted, then the big question to address will be what constitutes that effective mix of development strategies, financial management and governance environment that is complimentary with foreign aid support. This paper engages with some of these issues in order to inform policy toward a more effective aid program in LDCs in general and Uganda in particular.

One critical issue emerges out of the review of the empirical evidence on aid effectiveness and that is the lack of robust evidence on the impact of aid on growth in a number of countries. This may be due to lack of impact or failure to capture the evidence of impact. This challenge is not to be discounted especially in view of the multiplicity of factors in the causal chain leading to the impact of aid on economic growth. Some of the factors in the causal chain include governance, policy framework, aid amounts and conditionality. This is a methodological issue and involves the challenge of accurately modeling the mechanism of aid delivery so as to capture its impact.

3. Theoretical Framework

Trade is driven by both supply and demand side factors. For example, exports are driven by both foreign demand and domestic supply conditions. Similarly, imports are driven by domestic demand for foreign goods and foreign supply conditions. Traditional analyses of export and import trade dynamics have largely focused on the demand drivers of trade (Funke and Holly 1992). In developing countries, however, supply side factors have come to assume a more critical role, especially in determining export capability (UNCTAD 2004). In the case of many LDCs, the crippling effect of the supply-related constraints are even more evident in view of unexploited preferential market access opportunities such as the AGOA, EBA, and others. Accordingly, addressing the supply side factors has come to assume a very critical significance both in policy and the modelling of export participation by LDCs.

Studies such as Majeed and Ahmad (2006), Haider *et al* (2011), Bahmani-Oskooee (1998), and Warner and Kreinin (1983) hypothesize exports to be driven by domestic GDP, representing the capacity of the domestic residents to produce goods which may be exported, real effective exchange rate (REER) which is the nominal exchange rate adjusted for the level of prices in foreign and domestic markets and represents the relative price of domestic goods to foreigners (this variable may also be represented separately by the nominal exchange rate along with the rates of inflation and tariffs), a measure of the level of infrastructure development as this is a critical determinant of the cost of production and subsequently export competitiveness; FDI inflow which captures the contribution of especially export oriented FDI, Official development Assistance (ODA) representing

foreign aid support often aimed at trade related technical support and trade facilitation, and the average income of key trading partners to capture the factor of foreign demand for domestic goods.

In regards to imports, the empirical works of Kotan and Saygili (1999), Bahmani-Oskooee (1998), Warner and Kreinin (1983), Sinha (1997), and Rogers (2000) model imports as being influenced by domestic income measured by GDP, representing the purchasing power of domestic residents; and the real effective exchange rate (as defined above), representing the price of foreign goods in terms of domestic resources. The ODA variable is associated with support for trade liberalization and trade facilitation reforms in customs procedures and market infrastructure development which facilitate the flow of goods.

Additional insights come from directly examining the trade balance (TB), which gauges the overall effect of the drivers of both exports and imports on the trade balance. One key aim in modeling the TB in the literature is to test the Marshall-Lerner hypothesis and determine whether currency depreciation or devaluation has any effect on the TB (Onafowora 2003; Bahmani-Oskooee 1998). Changes in the trade balance are hypothesized to be driven primarily by domestic income, foreign income and real effective exchange rate (Onafowora 2003, Shirvani and Wilbratte 1997). In addition to these variables, we assess the relative impact of five other factors on TB. In particular, we add ODA, taxation, infrastructure proxied by gross fixed capital formation, manufacturing value added, and foreign direct investment.

4. Methodology

We employ three analytical approaches to examine the contribution of aid to Uganda's trade capacity. In the first place we summarize and analyze data on aid flows by amounts, type, and sector. Secondly we estimate three simple macro-models of export, import and trade balance with ODA as one of the explanatory variables. Thirdly, we analyze the impact of AFT programs vis-à-vis predetermined objectives in key focus areas, namely: policy capacity building, economic infrastructure development, production capacity enhancement, trade negotiation capacity development, implementation of multilateral agreements and the mitigation of adjustment costs.

4.1 Specification of the Models

4.1.1 Export Function

Drawing on the literature and especially the work of Majeed and Ahmad (2006), Haider *et al* (2011) and UNCTAD (2004, 2008) we hypothesize exports to be driven by the gross domestic product (UGDP), the real effective exchange rate (REER), official development assistance (ODA), savings out of the national income (SVG), the tax regime prevailing in the country (TAX), inward foreign direct investment (FDI), manufacturing value added (MVA), as proxy for the level of industrialization, the

state of physical infrastructure proxied by gross fixed capital formation (GFCF), and the average income of trading partners proxied by the GDP of Kenya (KGDP). Thus, we specify the export function as,

X = X(UGDP, TAX, SVG, REER, ODA, MVA, KGDP, GFCF, FDI)

Where,

Х	=	Exports as percent of GDP
GDP	=	Gross Domestic Product of Uganda in constant USD
FDI	=	Foreign Direct Investment as percent of GDP
ODA	=	Official Development Assistance as percent of GNI
REER	=	Real Effective Exchange Rate
KGDP	=	GDP of key Trading Partner(s) (Kenya)
GFCF	=	Gross Fixed Capital Formation
SVG	=	Savings as Percent of GDP
ТАХ	=	Tax as percent of GDP

Our primary interest is the relationship between ODA and exports. However we examine the overall model to assess the relation between the variables and the conformity of the coefficients with *a priori* theoretical expectations.

4.1.2 The Import Function

In the import function, we hypothesize imports to be driven by domestic national income (UGDP), real effective exchange rates (REER) and aid (ODA). That is,

$$M = M(GDP, REER, ODA)$$

Where,

Μ	=	Imports as percent of GDP
ODA	=	Official Development Assistance as percent of GNI
REER	=	Real Effective Exchange Rate
GDP	=	Gross Domestic Product of Uganda in constant USD

Again our primary interest is to examine the relationship between imports and ODA even as we examine the plausibility of the overall model vis-à-vis *a priori* suppositions.

4.1.3 The Trade Balance

Finally, we run the absolute value of the trade balance |X-M| on the variables hypothesized to explain the external trade balance namely GDP, REER, SVG, TAX, SCH, KGDP, FDI, GFCF, MVA and ODA to further examine the role of the drivers of trade:

$$|X - M| = F(UGDP, REER, ODA, SVG, TAX, SCH, TPGDP, GFCF, FDI, MVA)$$

Since the trade balance has been negative (deficit) for the entire period of the data set employed, we take without any complications the absolute value of the trade balance as the dependent variable. An increase in the dependent variable is seen as a widening of the trade deficit and may occur through increase in imports, or decrease in exports or both. This is valid for the selected range of years 1998-2011.

4.2 Type and Sources of Data

Exports (X) represent a key endogenous variable and are expressed as export value as percent of GDP. This data is available in World Development Indicators (WDI). Similarly imports (M) are expressed as value of imports normalized by GDP. The import data are also obtained from the WDI. The Gross Domestic Product (GDP) is the real GDP data in constant 2005 USD obtained from the WDI database version 2013.

Real Effective Exchange Rate (REER) is the weighted average of the bilateral real exchange rate for Uganda with its trading partners. It is an approximation of the real, inflation-adjusted price of Uganda's exports. A depreciation of the domestic currency makes exports cheaper for foreign consumers and vice-versa. This data is obtained from the WDI database version 2013.

Foreign Direct Investment (FDI) is the net inflow of FDI as percent of GDP. Its effect on exports is largely dependent on the export "orientation" or motivation of the FDI. FDI may be targeting cheap inputs in the domestic economy with the aim of producing for export or for the domestic market. The effect of export-oriented FDI is likely to be positive on export growth. On the other hand FDI aimed at "tariff jumping" is not likely to drive the growth of exports. This data is obtained from the WDI database version 2013.

The data on Official Development Assistance (ODA) as percent of Gross National Income (GNI), Tax to GDP, Manufacturing Value Added (MVA), the GDP of Kenya, Savings as percent of GDP are all obtained from the WDI, 2013 version. The study also used geo-coded national and project level aid data and GIS software to summarize the distribution of trade related aid projects in the country by geographical location. Finally for all the datasets, we convert the WDI annual dataset to quarterly data using Gretl Software.

4.3 Data Analyses

We employ time series econometric analysis to estimate macro-models of export, import and trade balance. We first transform the variables into logarithms to dampen excessive variation in the data and to enable elasticity interpretations. We then test the transformed data for stationarity. As commonly expected in macroeconomic data, the data turned out to be non-stationarity from which we proceeded to perform co-integration tests based on the Johansen procedure. On the basis of the cointegration of the variables, we determined the appropriate lag length and then estimate an error correction model (ECM) within a Vector Auto Regression (VAR) framework. The econometric techniques are further augmented with descriptive statistical analysis, documentary review and qualitative logical analysis.

5. Descriptive Statistical Analysis

5.1 The Structure of Aid Flows to Uganda

The long-term trend in aid flows to least developed countries especially in the Sub-Saharan Africa (SSA) region appears to have been generally upward. In the EAC, Rwanda and Burundi stand out in terms of per capita aid receipts but also in terms of aid receipts as percent of gross national income (GNI). Rwanda particularly experienced a marked surge in aid flows as percent of GNI in the aftermath of the 1994 genocide (Figure 1).

From around 2002 Burundi has received more aid as percent of its GNI than the other five EAC countries. In per capita terms the picture is slightly different though. Rwanda has received more aid per capita than the other four countries in the EAC in the last fifteen to twenty years (Figure 2). Aid to Tanzania in the last decade has hovered just over 10 percent of its GNI.

Apart from short-run fluctuations around long run trends in aid disbursements, aid flows into the EAC countries formed just under 10 percent of national income in the early 1960s but rose steadily to between 20 and 30 percent of GNI except for Kenya where ODA remained under 10 percent of GNI for the most part. ODA into Uganda is now between 10 to 20 percent of the country's GNI. Uganda's aid per capita receipts averaged USD 20.8 per year over 1960 to 2011 period, while total ODA as percent of GNI a year over the 1960 to 2011 period (WB-WDI, 2013).



Figure 2. ODA per capita for EAC countries



Source: World Bank, WDI 2013



Figure 3 shows the level of AFT flows in relation to total ODA. AFT which represents aid targeted into trade related sectors has formed approximately 20 to 30 percent of overall ODA. Although there has been ODA support in trade-related sectors prior to 2002, data on such flows have not been disaggregated from overall ODA flows.







Figure 4 presents AFT commitments vis-à-vis actual disbursements. Thus, in terms of follow through on their aid commitments, development partners have not performed particularly well vis-à-vis actual disbursements. In 7 out of 10 years, disbursements fell short of commitments. However in 3 out of 10 years, disbursements exceeded commitments.

Notwithstanding the steadily rising level of external financing with associated consequence of external indebtedness, Uganda's overriding external finance policy objective as stipulated in its external debt

Source: OECD-CRS

Source: OECD-CRS

strategy remains to ensure long-term external debt sustainability; consistency with macroeconomic objectives of fiscal consolidation and reduced aid dependency; the realization of an appropriate level of external financing at minimum cost; and the restriction of borrowing for productive sectors" (MOFPED 2007:16).







Another critical aspect of aid is its composition in terms of grants and loans. Grants are transfers of cash, goods or services with no requirement for repayment. Loans on the other hand are similar transfers for which repayment is required. Figure 5 shows that for all years 2002 to 2011 except 2007, 2009 and 2010, Uganda has emphasized grants over loans.

Uganda's preference for grants as opposed to loans reflects the country's emphasis on concessionality vis-à-vis commercial borrowing (MOFPED 2007). Thus, much of the country's borrowing especially under the Multilateral Debt Relief Initiative (MDRI) for Heavily Indebted Poor Countries (HIPC) has been through the International Development Association (IDA) of the World Bank, the African Development Fund (ADF) of African Development Bank (ADB) and others on concessional terms of 40 year loan maturity, 10 year grace period and 0.75 percent interest (MOFPED, 2007).

Uganda adopted the above strategy to external financing in order to ensure an appropriate level of external financing at the lowest possible cost and with long-run external debt sustainability. Although Uganda's external indebtedness now stands at USD 5.7 billion, the recent IDA/IMF debt sustainability analysis (DSA) shows that Uganda's external debt portfolio is sustainable and the country runs only a low risk of debt distress (WB and IMF, 2011).

Source: OECD-CRS

Source: OECD-CRS, 2013

In the particular case of AFT, the sectoral breakdown of the aid flows into Uganda is of special relevance especially in analyzing the sectoral emphasis of AFT vis-à-vis national priorities. To see where the bulk of the money has gone, we lump together the ten years (2002-2011) of Uganda's detailed sector or program specific AFT flows by sector (Figure 6).

The spikes in the chart (Figure 6) show that much of the funding has gone into transport infrastructure, energy, agriculture while a little went into industry, mineral resource and trade policy capacity building. Viewed against the backdrop of the NDP, the targeting of the AFT disbursements is seen to reflect Uganda's national priorities fairly closely.

Government appropriates external financing in three main ways, namely budget support (BS), project support (PS) and technical assistance (TA). Of the grants that the government of Uganda received in the Financial Years (FY) 2008/09 to 2011/12 period, the breakdown in terms of budget and project supports are as in Table 3.

Grant Type	2008/09	2009/10	2010/11	2011/12*
Budget Support	179.3	154.6	152.3	113.3
Project Support	212.5	200.5	67.2	175.4
Total Grants	391.8	355.1	219.5	288.7

Table 3. Grant disbursements by type

Source: MOFPED, 2012. *As at 31/03/2012

The government of Uganda has preference budget support rather than project support in external financing as this gives it more control on the funds (MOFPED 2007). The latter contrasts with the tendency of Development Partners to emphasize project support through their agencies as this also gives them more control over the use of the funds. Thus project support becomes especially attractive in the case of perceived financial impropriety or corruption on the part of the recipient government as was the case for Uganda during the 2010-2013 period.

Thus, in 2012 donors suspended much of their budget support to Uganda due to the corruption scandals in the office of the Prime Minister (OPM) in which Uganda reportedly lost an estimated UGX 60 billion or USD 24 million, a significant part of which was aid money meant for the Peace, Recovery and Development Plan (PRDP) for the war ravaged northern Uganda.

The latter incidence of financial impropriety prompted the suspension of up to USD 300 Million of largely budget support aid no less than eight western development partners (Jeanne and Njoroge 2012). Key among the suspensions was the World Bank's 30 percent contribution to Uganda's budget

support (Mugabe 2013). In fact Ireland, Sweden and Norway went further to suspend their project support to Uganda as well in 2011 (Jeanne and Njoroge 2012).

5.2 Uganda's External Sector Performance

In the last decade, Uganda put in a significant amount of effort in developing a sound trade sector development strategy and mainstreaming it into its overarching policy framework, the National Development Plan (NDP). In addition approximately USD (constant 2011) 3.4 billion of AFT has been directed into trade related sectors between 2002 and 2011 (OECD-CRS 2013).



Figure 7. Uganda's recent exports, imports and trade balance

Source: UBOS, 2013

Despite the above, the performance of Uganda's external sector has remained relatively weak particularly in relation to exports. In 2012 for example, Uganda's total export earnings were worth USD 2.8 billion while total expenditure on imports in the same year peaked at USD 6.1 billion, widening the deficit to approximately USD 3.3 billion (UBOS 2013).

Trade Flow	2008	2009	2010	2011	2012
Informal Exports	807.7	798.5	528.3	355.8	453.7
Formal Exports	1724.3	1567.6	1618.6	2159.1	2357.5
Total Exports	2532.0	2366.1	2146.9	2514.9	2811.2
Informal Imports	78.1	82.0	66.5	53.9	53.0
Formal Imports	4525.9	4257.6	4664.3	5630.9	6042.8
Total Imports	4604.0	4339.6	4730.8	5684.8	6095.8
Trade Balance	-2,072.0	-1,973.5	-2,583.9	-3,169.9	-3,284.6
% change (Exports)		-7%	-9%	17%	12%
% change (Imports)		-6%	9%	20%	7%

Table 4. Uganda's external trade sector performance (USD millions)

Source: UBOS, 2013

On a positive note however, the exports earnings of USD 2.8 billion in 2012 represented growth of 11.8 percent in exports which is over and above the 7.2 percent growth in imports registered in the same year. However, even though exports grew faster than imports in 2012, the actual deficit increased over the previous USD 3.2 billion (Table 4). It is therefore clear that closing the deficit will require more sustained strong growth in exports.

Secondly some diversification in Uganda's traditional exports of coffee, cotton, and tea into nontraditional exports such as maize, fish, beans and cut-flowers took place in the last two and half decades; however, value-added export diversification has remained limited. Thus, Uganda's exports continue to be highly concentrated in a limited range of primary agricultural products. In 2008 agriculture contributed upwards of 46 percent to Uganda's total export earnings (MAAIF, 2010).

More recently however, there has been some growth in Uganda's manufactured exports especially to the EAC and other regional markets such as the COMESA. This has been mainly in products such as cement, sugar, iron and steel and to some extent soap, beers, cigarettes, sodas, juices, water, spirits, confectionaries and wheat flour. Strengthening manufacturing value addition for regional export market can provide the much needed value-added diversification that Uganda needs to stabilize export receipts.

6. Estimation of Export, Import and Trade Balance Models

6.1 Stationarity Tests on the Data Series

After logarithmic transformation, we use the Augmented Dickey-Fuller (ADF) and Phillip-Peron (PP) procedures to test for stationarity. The tests show that all the variables are largely non-stationary in levels.

Variable	Order	Variable	Order
Log_EXPORTS	l(1) – ADF	Log_MVA	l(1) – ADF
Log_GDP	l(1) – ADF	Log_FDI	l(1) – PP
Log_ODA	l(1) – ADF	Log_KGDP	l(1) – ADF
Log_GFCF	l(1) – ADF	Log_GNE	l(1) – ADF
Log_TAX	l(1) – ADF	Log_IMPORTS	l(1) – ADF
Log_SVG	l(1) – ADF	Log_TRADE	l(1) – ADF
Log_REER	l(1) – ADF		

Table 5. Results of ADF and PP stationarity tests

Source: ADF and PP unit root test results

The ADF and PP unit root tests of stationarity on the variables in first difference confirm that all the variables are stationary and therefore I(1) at 5 percent. Due to the non-stationarity of the data, the use of standard Ordinary Least Squares (OLS) is not advisable as this often leads to spurious regression relationships. It is therefore necessary to explore the option of co-integration to see if the variables have stable long-run steady-state relationships. We perform this separately for the export and import functions.

6.2 The Export Model

6.2.1 Tests of Co-integration

The unrestricted co-integration test results presented in table 5 show that the variables in the export function are co-integrated. We fail to reject the hypothesis of "At most 6" co-integrating equations at the 5percent level of significance (Table 5). This indicates that up to 6 cointegrating equation combinations of the variables are possible.

Since there is evidence of co-integration, we now justify the choice of the co-integrating equation to estimate. This process is largely informed by theory and exogeniety tests through which we confirm the endogeniety of exports. We then proceed to the estimation of the cointegrating equation and the error correction model (ECM).

6.2.2 The Error Correction Model

The estimation of the long-run co-integrating equation yields results in which the coefficients of the ODA, GDP, SVG, REER, and MVA variables carry the expected positive signs and are significant (See Table 6 in the Appendix). The ODA variable has a positive effect on the export variable implying that aid translates positively into export growth. The coefficient of the ODA variable which is interpreted as the elasticity of exports with respect to ODA is 0.696621 or approximately 0.7, implying that one percentage increase in ODA translates into approximately 0.7 percentage points of exports. Recalling that ODA is a broader measure of aid than AFT (which is the component of ODA targeted into trade related sectors) it may be deduced that the relationship between AFT and exports is likely to be stronger. On the basis of the coefficients obtained, the estimated co-integrating equation may be written as,

$$\begin{split} lnX_{t-1} &- 24.17926 - 3.908860 lnGDP_{t-1} - 0.431339 lnTAX_{t-1} - 0.320189 lnSVG_{t-1} \\ &- 2.474323 lnREER_{t-1} - 0.696621 lnODA - 0.634061 lnMVA_{t-1} + 5.404412 lnKGDP \\ &- 0.119660 lnGFCF_{t-1} + 0.013245 lnFDI_{t-1} = 0 \end{split}$$

The GFCF variable which was used as proxy for infrastructure turned out with the expected positive sign but not statistically significant. The theory is clear however that economic (and especially transport) infrastructure constitutes a key factor in the flow of goods and in the cost of production and supply of goods. Two possible explanations may be offered for the observed lack of statistical significance. First GFCF may not be capturing the infrastructure variable well enough to bring out any consistency in the relationship. Two, the relative brevity of time (and therefore investment in the transport infrastructure subsector) and the "noise" from the multiplicity of other factors affecting exports may have obscured the relationship between infrastructure and exports for the case of Uganda.

The REER variable turned out with the expected positive sign and is also statistically significant. This empirical evidence shows that movements in the real effective exchange rates do influence export demand. A depreciation in the local currency which shows up as a rise in the REER (the real price of foreign currency in terms of local currency units) makes Uganda's exports cheaper for foreign consumers and vice-versa. The coefficient 2.47 of the REER variable which is greater than unity shows that foreign demand for Uganda's exports is highly elastic with respect to the exchange rate changes. A percentage unit depreciation in the value of the local currency raises export demand by approximately 2.5 percentage points.

Growth in the GDP of Kenya, one of Uganda's key trading partners is negatively correlated with Uganda's export growth. This result may be indicative of the slowly shifting role of Kenya as an important export destination to other export destinations such as South Sudan, Rwanda and Eastern DRC. The coefficient of 5.404412 shows that the Kenyan demand for Uganda's exports is highly and negatively income elastic.

The FDI variable is negatively related to exports but is not statistically significant. The negative sign is likely to be indicative of the local rather than export market orientation of much of the inward FDI in Uganda. This result reflects the fact that a good amount of the inward FDI in Uganda are largely oriented toward the domestic market rather than global export market. This would not be the case if much of the inward FDI are oriented toward exporting as in the case of Export Processing Zones (EPZs) which Uganda is yet to prioritize.

To construct the error correction model we combine the long run steady state relationship with the short-run adjustments. We retain the suggested lag length of 2 to avoid excessive loss in degrees of freedom given the data points employed are 53. The error correction model for the export function is presented as:

$$\begin{split} \Delta lnX_t &= \alpha + \sum_{i=1}^2 \beta_i \Delta lnX_{t-i} \\ &+ \sum_{i=0}^2 \gamma_i \Delta lnGDP_{t-i} + \sum_{i=0}^2 \delta_i \Delta lnREER_{t-i} + \sum_{i=0}^2 \theta_i \Delta lnODA_{t-i} + \sum_{i=0}^2 \epsilon_i \Delta lnFDI_{t-i} \\ &+ \sum_{i=0}^2 \mu_i \Delta lnSVG_{t-i} \\ &+ \sum_{i=0}^2 \pi_i lnTAX_{t-i} + \sum_{i=0}^2 \rho_i lnGFCF_{t-i} + \sum_{i=0}^2 \tau_i lnMVA_{t-i} + \sum_{i=0}^2 \omega_i lnKGDP_{t-i} + \lambda ECM_{t-1} + \epsilon I \end{split}$$

The Greek letters represent the coefficients of the variables. The statistically significant coefficients of the ECM are presented in table 7 and the rest in table A5 in the appendix. The results show that the error correction term of -0.255770 carries the expected negative sign and is significant at 10%. The ECT shows that approximately 26% of any deviation from the long run steady state is corrected in each quarter.

Variable	Coefficient	Coefficient	Standard	t-Statistic	Probability
			Error		
ECT	λ	-0.255770	0.143835	-1.778225	0.0852
Δ(InX _{t-1})	β(1)	1.183792	0.200864	5.893496	0.0000
Δ(InSVG _{t-1})	μ(1)	-0.118509	0.045292	-2.616584	0.0136
Δ(InMVA _{t-1})	т(1)	-0.259160	0.102387	-2.531185	0.0167
Constant	α	0.008909	0.018122	0.491590	0.6265

Table 7. Error correction model for the export function

Source: EViews output

Secondly most of the lagged variables of the model with the exception of SVG and MVA variables are not significant and so may be dropped in a parsimonious model. Looking at the regression diagnostics and especially the adjusted R^2 of 0.59, Durbin-Watson of 2.38 and a significant F-Statistics, we can conclude that the specified model fits the data reasonably well. The adjusted R^2 of 0.59, shows that the explanatory variables of the model including the ODA variable explain approximately 60% of the variation in Uganda's export volumes. The DW is close to 2 implying negligible autocorrelation.

6.3 The Import Model

6.3.1 Co-integration Tests

On the basis of the Johansen co-integration test we are able to reject the null hypothesis of no cointegration between the variables in favor of at least one co-integrating equation for the import model. The results of the Johansen co-integration rank test are shown in table 8 in the appendix.

6.3.2 The Error Correction Model

Our basic hypothesis is that imports (M) are driven by domestic national income and the real effective exchange rates. In the case of Uganda however, aid support has been instrumental in trade facilitation especially through the reform of customs procedures, harmonization of clearance documentation, removal of NTBs, and the introduction of an integrated IT system and others towards an ultimate single customs territory (SCT) in the EAC.

These interventions will undoubtedly have had some effect on the flow of goods in and out of the country. Based on the latter, we add ODA variable as a possible explanatory variable in the import function. We then estimate the long-run co-integrating equation of the import model. The coefficients obtained are presented in table 9 in the appendix. The three explanatory variables of GDP, REER and ODA all turned out significant. However all except the REER variable carry the expected signs as shown in the equation below.

$$lnM + 17.34906 - 0.685034lnGDP - 0.901103lnREER - 0.286164lnODA = 0$$

In the equation, we note that the coefficient of the GDP variable bears the expected positive sign and is statistically significant. As noted, domestic GDP is hypothesized to be a key motivator of import demand and the positive relationship between GDP and imports is therefore consistent with the a priori theoretical expectation. The coefficient of 0.685 of the GDP variable can be interpreted as the import elasticity with respect to national income. A one percent increase in national income translates into approximately 0.7 percentage points of import demand.

The ODA variable also carries a positive sign implying that imports positively correlate with ODA. Several explanations may be offered for this empirical observation. The most common and obvious interpretation is that of "tied aid" in which an aid-recipient nation is required to spend at least part of aid money in the donor nations usually in terms purchase of project inputs and technical assistance. Secondly aid money contributes to the national pool of foreign currency and capacitates the recipient nation in importing goods and services. Finally in the case of Uganda, aid money especially in form of AFT has gone into trade facilitation which boosts both imports and exports. The elasticity of import growth with respect to aid is approximately 0.3, implying that one percentage increase in ODA translates into approximately 0.3 percentage points of import growth in the long run relationship.

The real effective exchange rate (REER) variable turned up with a positive sign contrary to a priori expectation. However given that much of Uganda's imports comprise of essential petroleum and petroleum products, capital inputs and consumer manufactured goods and services, we may not expect any significant elasticity in Uganda's import demand. In fact a positive "Giffen-good" type relation between the country's imports and REER (which represents the price of imports) is quite

possible. This may be manifested through simultaneous growth in import demand along with depreciation of the local currency. The error correction model combining the long and short-run relationship is expressed as,

$$\Delta lnM_t = \alpha + \sum_{i=1}^2 \beta_i \Delta lnM_{t-i} + \sum_{i=0}^2 \gamma_i \Delta lnUGDP_{t-i} + \sum_{i=0}^2 \delta_i \Delta lnREER_{t-i} + \sum_{i=0}^2 \theta_i \Delta lnODA_{t-i} + \lambda ECM_{t-1} + \varepsilon$$

Where, a represents the intercept, β_i the coefficients of the lagged import variables, γ_i the coefficients of the lagged UGDP variables, δ_i the coefficients of the lagged ODA variables, λ is the error correction term and ϵ the residual. The statistically significant coefficients are summarized in table 10 while all the coefficients are presented in the appendix. In the first place the error correction term (λ) with value of -0.309 bears the expected negative sign and is statistically significant at 1%. The magnitude of λ shows that the system adjusts toward its long run steady state at the rate of 30% every quarter.

In addition, the first lagged difference of the import variable (ΔlnM_{t-1}) has a positive and significant effect on current imports. The coefficient of the second lagged difference of the import variable (ΔlnM_{t-2}) however is not statistically significant. Both the first and second lagged differences of the GDP variable are not significant implying that the ECM is largely influenced by the current rather than previous levels of GDP. The first lagged difference of the REER variable is significant even though the second is not. Finally and more importantly, both the first and second lagged differences of the ODA variable are significant at 5% in the ECM. This shows that ODA has played a significant role in strengthening Uganda's import capacity.

	Coefficient	Standard Error	t-Statistic	Probability
ECT(λ)	-0.309008	0.056479	-5.471184	0.0000
InM _{t-1}	0.525633	0.143363	3.666444	0.0007
InREER _{t-1}	-0.403680	0.181445	-2.224803	0.0314
InODA _{t-1}	-0.062951	0.017657	-3.565297	0.0009
InODA _{t-2}	-0.026932	0.013304	-2.024333	0.0492
Constant	-0.004908	0.008249	-0.594997	0.5550

Table 10. Error correction Model for the Import Function

Source: EViews output

We also note that the adjusted R-Squared of 0.69 suggesting an approximately 70 percent explanation of import variation, a Durbin-Watson statistic of 2.0 implying no autocorrelation and a highly significant F-Statistic shows that the import model fits the data reasonably well.

Finally while the analysis shows that ODA can positively impact Uganda's capacity to trade through both exports and imports, there is need to strengthen export competitiveness given the widening deficit in the external trade sector. It is also worth noting that building export capacity and competitiveness is more challenging than building import capacity. Thus, evidence of aid impact on trade capacity underscores the need for Uganda to supplement domestic effort with aid support in the quest for a healthy external trade sector performance.

6.4 The Trade Balance Model

We now turn to the issue of Uganda's external trade balance. As discussed in section 5.2, Uganda's trade balance has been in deficit for the last several decades. Expenditure on imports has generally outstripped receipts from exports. This in turn has engendered a steady depreciation of the local currency against major foreign currencies, a reflection of the imbalance in demand for imports and exports. To closely examine the dynamics of the external trade sector, and especially the drivers of the external trade balance, we run the trade balance on the domestic GDP, REER, ODA, FDI, GFCF, SCH, TAX and foreign GDP. The results of the estimation should throw light on the role of each variable in the balance of external trade.

6.4.1 Co-integration Test

The Johansen co-integration test shows that the trade balance function can have up to 6 cointegrating equations (CEs) according to the trace criteria and up to 3 CEs according to the maximum eigenvalue criteria. Given the evidence of cointegration, we proceed to estimate the cointegrating equation(s). On the basis of theory and weak exogeniety tests, we run the cointegrating relationship with the trade balance, |X-M| as the dependent variable on the explanatory variables identified (see section 6.4).

6.4.2 The Error Correction Model

The measure of trade balance employed in the analysis is the difference between exports and imports expressed as percent of GDP (merchandize and services). For the period of time examined, Uganda's trade balance has been in deficit, that is, imports have exceeded exports. In the analysis we take the absolute value of the trade balance. The long run relationship estimated turned out as,

$$\begin{split} lnTDFCT &= -3.01517710556lnUGDP - 0.0964363224391lnODA - 0.0293230055028lnREER \\ &+ 2.53641528562lnSCH + 0.236770074039lnSVG + 1.22513895893lnTAX \\ &+ 1.19700081651lnMVA + 4.78715558613lnKGDP - 4.10434564907lnGFCF \\ &- 0.317502447601lnFDI - 41.9387808219 \end{split}$$

The relationship shows that domestic GDP, ODA, REER GFCF and FDI appear to have an overall negative effect on the trade balance – that is, they tend to reduce the deficit in the long run. On the other hand the SCH, SVG, MVA and KGDP tend to increase Uganda's trade deficit in the long run. The ECM is presented in the form:

$$\begin{split} \Delta lnTDFCT_t &= \alpha + \sum_{i=1}^2 \beta_i \Delta lnTDFCT_{t-i} + \sum_{i=1}^2 \beta_i \Delta lnX_{t-i} \\ &+ \sum_{i=0}^2 \gamma_i \Delta lnGDP_{t-i} + \sum_{i=0}^2 \delta_i \Delta lnREER_{t-i} + \sum_{i=0}^2 \theta_i \Delta lnODA_{t-i} + \sum_{i=0}^2 \epsilon_i \Delta lnFDI_{t-i} \\ &+ \sum_{i=0}^2 \mu_i \Delta lnSVG_{t-i} \\ &+ \sum_{i=0}^2 \pi_i lnTAX_{t-i} + \sum_{i=0}^2 \rho_i lnGFCF_{t-i} + \sum_{i=0}^2 \tau_i lnMVA_{t-i} + \sum_{i=0}^2 \omega_i lnKGDP_{t-i} + \lambda ECM_{t-1} + \varepsilon \end{split}$$

In looking at the overall error correction model (ECM) however, we underscore that fact that the error correction term of -1.109193, while bearing the expected negative sign is not statistically significant. The statistically significant coefficients in the above model are summarized in table 11. We note however that domestic GDP lag one, gross fixed capital formation lag one and manufacturing value added lag one are significant at 10%, 5%, and 10% respectively.

In comparing the model for the trade balance and the independent models for import and exports, we note that the results of the econometric estimation of the import model shows more robustness in terms of the F statistics, the adjusted R-square, the J-B test of normality of the residuals and other diagnostics. The effect of the ODA variable also seems more robust on imports than on exports. We may conclude that aid appears to have had relatively stronger effect on the growth of imports than exports.

Table 11. Error correction model for the TB

	Coefficient	Std. Error	t-Statistic	Prob.
ЕСТ	-1.109193	0.690540	-1.606268	0.1191
ΔInUGDP(-1)	16.31804	9.462794	1.724442	0.0953
∆InGFCF(-1)	4.099950	2.273705	1.803202	0.0818
∆InGFCF(-2)	2.423753	1.149461	2.108601	0.0437
ΔInMVA(-1)	-1.515542	0.767149	-1.975553	0.0578
Constant	-0.284292	0.145410	-1.955107	0.0603

Source: Computed using EViews

The effect of ODA on exports especially through the AFT initiative is still insignificant even though micro-level analysis of AFT programs show that some significant outputs which can impact trade in the long run have been realized even though the overall effect of this is yet to be observed at macro-level. The overall long run effect of the REER on the TB is negative, that is, a depreciation of the domestic currency tends to improve the trade balance. Except for the statistical insignificance, this result would otherwise be in support of the Marshall-Lerner condition. The overall results show that more needs to be done on the export side to improve the external trade balance.

7. Sector and Project Level Performance of AFT

In this section we now examine the contribution of aid for trade (AFT) in the key focus areas of policy formulation and regulation capacity, economic infrastructure development, productive capacity development, multilateral trade negotiation capacity, compliance with WTO rules and standards, and mitigation of trade reform adjustment costs. The paper examines sectoral disbursements and where possible project level outputs so far realized with aid support.

7.1 Policy Formulation and Regulation Capacity

Uganda has received significant technical support through the Integrated Framework (IF) and now the Enhanced Integrated Framework (EIF) toward building trade capacity in the country especially in developing technical capacity for policy formulation and regulation. Some of the support has come through such programs as the Uganda Program for Trade Opportunities and Policy (UPTOP) of the European Union which sponsored a series of trade sector review workshops and the development of the national trade policy and sector development plan. In addition the country undertook diagnostic trade integration studies (DTIS) aimed at identifying sector specific constraints and developing an action matrix to remove the constraints.

Thus, some reasonable capacity in policy formulation and regulation has been realized. In 2007 Uganda came up with its first National Trade Policy (NTP). In addition to the NTP, the country developed the National Trade Sector Development Plan (NTSDP) to operationalize the NTP. The Uganda Export Promotion Board (UEPB) in collaboration with relevant MDAs and aid support, developed the National Export Strategy (NES) and the Competitiveness Secretariat developed the Competitiveness and Investment Climate Strategy I and II all of which are critical components of a comprehensive trade strategy.

The key milestones realized with AFT support in relation to policy capacity in Uganda are therefore the development of the country's national trade policy and complimentary strategies and mainstreaming these into the National Development Plan (NDP). The realization of the enhanced trade policy capacity also scores reasonably well in relation to the Paris Declaration principles of policy "ownership" and "alignment" with national priorities. The sector reviews and national trade policy workshops were participative and instrumental in the development of the NTP.

Future aid support in the policy area could be directed into the operationalization of the Single Customs Territory (SCT), the implementation of a comprehensive national competitiveness strategy to take full advantage of the East African Customs Union (EAC-CU) and the Tripartite Free Trade Area (TFTA). The latter have to address the issues of Uganda's low productive capacity, considerable fluctuations in supply quantities and high cost of production.

7.2 Economic Infrastructure Development

The NDP places considerable emphasis on infrastructure development and in budgetary allocations as per the 2013/14 and earlier budgets (MFPED, 2012/13, 2013/14). The bulk of AFT support has gone into infrastructure and rightly so as the efficiency of the transportation network directly impacts the country's cost of doing business and subsequent competitiveness. The prioritization of infrastructure development in AFT disbursements reflects a good aid alignment with the priorities of Uganda's national development strategy.

In looking at the subsectors of infrastructure however, it is worth noting that the bulk of the money has gone into the development of road transportation network and only USD 7.7 Million into cheaper rail and approximately USD 0.93 Million in waterway networks since 2002. No AFT was targeted into the development of storage facilities. It is important to note however that storage facilities are critical and complimentary to efforts at boosting Uganda's productive capacity and smoothing trade supply quantities.

A regionally integrated transport network is required to significantly facilitate trade growth in the EAC and beyond. Although there is a regional Railways master plan which is a component of the overall transport infrastructure master plan, not much of the investments have been directed into these. There is therefore urgent need to prioritize and fast track a regionally planned road, railway, waterway networks and ports, harbors, and storage facilities. This requires significant investments in view of the fact that the infrastructure inherited by the country from the colonial era was not designed for the purpose of intra and inter-regional trade. Aid commitments to Uganda's economic infrastructure based on AidData information and summarized using GIS maps are shown in figure 8 for the energy, transport and ICT sectors.



Figure 8. Aid to economic infrastructure development 1988-2013

Source: GIS map based on AidData information

Government put priority on the power sector and it is in this sector that reasonable progress can be reported. One of the major additions to the hydroelectric power generation in the country is the 250 Megawatts Bujagali hydroelectric power dam co-financed by the African Development Bank (ADB), the World Bank (WB), and the European Investment Bank (EIB) and commissioned in 2012.

Investments in the energy sector have led to some degree of stabilization in electrical power supply and associated production especially electrical power based processing. It is noteworthy that in the power sector, the government of Uganda demonstrated strong "ownership" of the policy in line with the Paris principles. It is however debatable whether donor financial support has been "closely" aligned to this particular policy priority of government especially in view of the withdrawal of donor support in the initial attempt at the construction of the dam!

7.3 Building Productive Capacity

Over USD 900 Million of aid money has gone into Uganda's agriculture sector from 2002 to 2011 to support various projects. The sectoral disbursements of AFT are in line with Uganda's comparative advantage in agriculture and agro-based processing which contributes nearly 60% of export revenue. AFT support in this sector represents good alignment with a national priority sector and comparative advantage.

Information on aid directed into Uganda's production sector is available from various sources. Figure 9 below summarizes data on aid into Uganda's agriculture and tourism sectors obtained from AidData and summarized using GIS maps. Aid targeted into building Uganda's productive sector represent a key priority as much of the binding constraints are in the production sector. These include such things

as near total dependence on natural climatic conditions especially in regards to agricultural production, but also economic infrastructure constraints that undermine the competitiveness of domestic enterprises.

Other related categories of key constrains in Uganda's production sector include low productive capacity, low levels of technological innovation and low productivity. These factors have led to fluctuating output quantities especially in regards to agricultural produce where production is highly dependent on natural climatic conditions, rudimentary technologies and low quality inputs. Reliability and consistency in supply is key in trade competitiveness. There is therefore need to prioritize this so as to strengthen and stabilize supply quantities for trade.



Figure 10: Aid to building productive capacity 1988-2013

Source: GIS map based on AidData information.

A lot however remains to be done in order to strengthen Uganda's productive capacity and especially in the agriculture sector in terms of making the sector less dependent on natural climatic conditions. In this regard the critical areas to invest in are irrigation systems, quality of agricultural inputs, and better technology and storage facilities. Another complimentary goal in relation to productive capacity is the need to lower production costs in the country through investments in low cost transportation, utility services, fuel and storage.

7.4 Multilateral Trade Negotiation Capacity

Uganda still has a limited capacity for multilateral trade negotiations. From 2002 to 2011, approximately USD 0.67 million of AFT money has gone into multilateral trade negotiation and approximately USD 0.5 Million into regional trade agreements (RTA) (OECD 2013). Rudaheranwa

(2005) highlighted the following key challenges facing Uganda in multilateral trade negotiations at the WTO:

- Inadequacy of technical skills especially of international trade law and trade economics in the ministry of trade, Uganda's mission at the WTO but also among private sector players to undertake rigorous analysis and synthesis of often complex trade issues and their development implications. Closely related to this is the need for a state of the art resource center to provide invaluable information and allow trade stakeholders to share vital information;
- Understaffing of trade negotiators at the WTO, EU and ACP missions. WTO trade
 agreements are reached through consensus which in turn require wide and on-going
 consultations. In a number of cases there are regular and occasional meetings some of which
 are simultaneous. Due to inadequacy of staff, Uganda is often not represented in some of the
 meetings. This problem however faces many least developed countries who have come to
 realize the importance of pooling their resources and negotiating as a block;
- Inadequacy of funds to the relevant ministries and the Inter-institutional Trade Committee (IITC) that has been coordinating the pre-negotiation consultations with national trade stakeholders. The IITC has been largely supported by aid for trade funds through the Uganda Program for Trade Opportunities and Policy (UPTOP) from the EU and the Japan International Cooperation Agency (JICA). The need to regularize the IITC and its operations has been articulated on a number of occasions;
- There is also the challenge of inadequate feedback mechanism to canvass the views of trade stakeholders and accurately synthesize them in the preparation of national negotiating positions. The consequences of some of the instruments for negotiation can only be fully fathomed through consultations with stakeholders in the trade related production sectors.

As pointed out, Uganda's existing but obviously inadequate capacity in multilateral trade negotiation has been largely realized through aid for trade donor funding especially from the EU and Japan. There is need to explore both national and regional options to beef up the country's trade negotiation capacity.

Finally it is important to note that the negotiation of good trade deals is critical but must be accompanied or even preceded by the development of strong production and supply capacity otherwise the negotiated facilities will be underutilized just like the preferential trade opportunities currently available to Uganda.

7.5 Implementation of WTO Rules

Compliance with WTO quality and standards in trade draws on a number of things. These include knowledge of the acceptable quality and standards for goods defined by the International Standards Organization (ISO), the necessary education of trade stakeholders relating to the standards, trade facilitation, technological and scientific knowledge and the overall trade policy framework and management.

Rudaheranwa (2005) has pointed out the challenges facing Uganda's ability to comply with WTO related quality and standards in multilateral trade namely: the inadequacy of the relevant equipment and infrastructure, low technical know-how of standards development, lack of awareness of technical information on standards among trade stakeholders, limited participation in international standards setting processes, weak capacity for the enforcement of standards and under-resourcing of key institutions like Uganda National Bureau of Standards (UNBS), Uganda Industrial Research Institute (UIRI) and others for the development and enforcement of WTO standards especially in Sanitary and Phytosanitary (SPS).

From 2002 to 2011, approximately USD 0.44 USD have been targeted into trade-related education; approximately USD 10.27 in technological research and development (R&D), USD 37.8 in trade policy administration and management; USD 7.33 in trade facilitation (OECD, 2013). The impact of the AFT support in building domestic capacity to comply with multilateral trade standards is still limited.

7.6 Mitigating Adjustment Costs

Aid oriented reforms aimed at streamlining ports and customs procedures, the removal of NTBs and further liberalization are likely to bring about loss of revenue for government and businesses for some trade players.

Such adjustments costs are inevitable and constitute a trade-off for ensuring efficiency in regional trade flows. However so far no AFT support has gone into the mitigation of reform related adjustment costs (OECD CRS).

8. Summary and Conclusion

The main findings of this paper may be summarized as follows:

The macro-model estimations shows that aid has positively influenced both Uganda's import and export trade. The results however show the impact of aid on imports to be more robust than the effect on exports.

Uganda has built some reasonable capacity in trade policy formulation and regulation and has developed the national trade policy, national export strategy, competitiveness strategy and has in addition mainstreamed these into the national development plan (NDP) with AFT support. However there is no dedicated, fully resourced policy analysis unit capable of doing cross sectoral policy analysis within an inter-institutional framework.

The power sector has seen some notable growth with electricity supply largely stable especially after the addition of 250 MW from Bujagali with significant role of AFT especially through the African Development Bank and the European Union. This has positively affected the country's productive capacity especially power based processing. It is also worth noting that in regards to the power sector development, the government showed strong policy "ownership" in line with the Paris Declarations.

The road transportation infrastructure sub-sector has also seen some positive trade enhancing changes with aid support even though little or nothing has been done in the cheaper rail and waterway transportation infrastructure development. Aid support into infrastructure is properly aligned to Uganda's current national development priority.

Finally little aid for trade support has gone into building negotiation capacity and none in mitigating the effects of adjustment reforms.

A key principle in the Paris Declaration is policy "ownership". This is to be interpreted that the aidrecipient partner sets its development priorities. Thus, aid is complimentary but not a "replacement" of national development effort.

All in all Liberalization which preceded the formulation of Uganda's national trade policy "caught" the country unprepared especially in terms of strategic trade options. Ideally liberalization should be undertaken in tandem with the development of domestic trade capacity and competitiveness. This lesson is important for future liberalization of EAC Common External Tariff (CET). No country can gainfully participate in trade if it has nothing to offer. The result would only be unsustainable consumption.

The overall conclusion of the study is that aid can produce positive impact on trade capacity when it is properly aligned to sound national policy priorities and policy framework.

9. Policy Implications

We now address the policy questions posed earlier in the light of the findings of the study and offers some policy advice under the broad headings of – alignment of AFT with national priorities, AFT

supported achievements and options for enhancing the positive impact of AFT on Uganda's external trade sector.

9.1 Alignment of AFT with National Development Priorities

This paper established that Aid for Trade money during the 2002 - 2011 period largely went into transport infrastructure, energy, agriculture and to a lesser extent into industry, mineral prospection and exploration and trade policy capacity development (OECD-CRS 2013). The latter targeting is reasonably consistent with Uganda's national priorities as spelled out in the NDP and as articulated by the country's leadership and policy makers. Infrastructure, energy and agricultural development remain part of Uganda's policy priority.

The close alignment of AFT to national priorities fulfills one of the PD principles for aid effectiveness. According to the AAA, the aid recipient economy spearheads the policy agenda while AFT effort compliments government effort. Uganda has demonstrated strong policy ownership especially in regards to the development of the energy sector and road infrastructure network. Government created a special fund for energy and infrastructure development out of annual budgetary allocations. This ensures that even where donor funds are not forthcoming, the country is able to press on with critical development in the priority sectors.

Notwithstanding the reasonably good alignment of AFT support to government's priority areas, a number of areas critical for the competitiveness of the country remain under-resourced. These include low cost railway and waterway transportation networks, storage facilities and productive capacity. The latter includes boosting productivity especially in the agriculture sector through such things as technological innovation and water for agricultural production possibly in form of irrigation systems. Interventions in these areas are critical and should be prioritized so as to enhance competitiveness arising from production cost related efficiencies and supply reliability.

9.2 Achievements Justifying the Continuation of the AFT Policy

In view of the notable outputs in the AFT supported government interventions especially in the power, infrastructure, and to some extent agriculture sectors, it is reasonable to expect positive impact in longer term outcomes such as increased export competitiveness and export volumes. This can be possible with sound policy framework and better AFT targeting.

While the type of aid and the associated conditionality are important, even more important is how the recipient economy utilizes the aid support. Thus, the problem is not with aid money per se but with how it is applied in dealing with Uganda's development challenges. In view of the latter it seems

reasonable to recommend a continuation of the AFT program in Uganda along with pro-trade policy reforms and unambiguous emphasis on export competitiveness.

9.3 Enhancement of AFT-Domestic Policy Complementarity

A handful of factors have emerged as key game changers in the quest for more positive impact of aid on trade and growth in this and previous studies. These include – the broader economic and political context, political leadership, public finance management institutions, financial accountability structures, and the soundness of the domestic policy framework.

The critical importance of the above factors have been clearly demonstrated during financial mismanagement and misappropriations in the Office of the Prime Minister (OPM) in Uganda over the 2011 – 2012 period. These developments threatened the flow of aid itself as they triggered the suspension of aid by up to eight key development partners. Not only is it necessary to ensure predictability in the aid flow but also proper targeting and utilization. It is necessary in the first place to develop sound financial management and accountability systems to ensure proper utilization of aid money. This is also critical for Uganda's ability to maintain the confidence of its development partners. Thus, the issue of putting in place a sound financial management and accountability system needs to feature prominently in the public finance management bill that the country is considering.

Another key requirement to enhance the impact of aid in Uganda is for government to show the kind of strong ownership and leadership seen in the development of energy sector in dealing with other critical sectors currently under-emphasized and under-resourced. These include the regionally integrated cheaper rail and waterway transportation networks, storage facilities and the stabilization of production and supply factors. Investments in these areas should be prioritized to enable the significant lowering of production costs and the enhancement of Uganda's competitiveness in a liberal global trade environment.

There should also be a clear emphasis on strengthening export competitiveness in view of the huge deficit in the trade balance but also addressing the unique challenges involved in export development vis-à-vis import facilitation. In this regard both government effort and AFT support should be directed into building competitive productive capacity in the country's comparative advantage sectors and value chains. Policy measures should aim at ensuring stability of output and supply which are critical dimensions of competitiveness. In the particular case of agriculture, interventions relating to this issue may include the development of irrigation systems, storage facilities and the like to reduce the dependence of output supply on natural conditions.

Appendix

Descriptive Statistics of the variables used in the study

Table A1. Descriptive statistics

		LNGF	LNKG		LNMV	LNOD	LNRE	LNSC	LNSV	LNTA	LNTD	LNUG	
	LNFDI	CF	DP	LNM	A	A	ER	н	G	Х	FCT	DP	LNX
	1.342	3.036	23.65	3.290	2.066	2.574	4.669	3.005	2.222	2.460	2.561	22.92	2.703
MEAN	553	517	310	862	711	668	061	879	993	936	168	031	969
MEDIA	1.241	3.049	23.62	3.231	2.052	2.603	4.662	2.966	2.138	2.443	2.457	22.88	2.598
N	865	113	470	800	220	040	902	827	434	990	304	796	293
	1.934	3.207	23.94	3.571	2.416	3.159	4.899	3.350	2.764	2.964	3.190	23.41	3.230
MAX	456	516	326	796	091	378	576	533	290	126	359	118	083
	0.812	2.659	23.43	2.999	1.825	2.209	4.510	2.439	1.718	2.212	2.176	22.46	2.240
MIN	507	347	595	533	351	591	000	605	390	958	233	210	485
	0.344	0.118	0.161	0.175	0.111	0.224	0.087	0.264	0.309	0.138	0.299	0.288	0.330
SD	143	913	625	731	928	722	683	079	748	117	909	941	373
		-						-					
SKEWN	0.267	0.8470	0.264	0.229	0.709	0.266	0.611	0.3095	0.182	1.242	0.590	0.116	0.448
ESS	531	97	197	423	295	550	868	66	776	489	523	090	627
KURTO	1.758	3.830	1.602	1.723	4.180	2.362	3.450	2.226	1.716	5.308	2.128	1.689	1.674
SIS	344	778	034	495	968	934	203	063	426	297	970	217	145
	4.265	8.307	5.211	4.293	7.949	1.610	3.967	2.292	4.156	26.84	5.024	4.134	5.980
J-BERA	334	805	524	342	857	114	159	043	110	115	978	805	233
	0.118	0.015	0.073	0.116	0.018	0.447	0.137	0.317	0.125	0.000	0.081	0.126	0.050
PROB	521	703	847	873	781	062	576	899	173	001	066	514	282
	75.18	170.0	1324.	184.2	115.7	144.1	261.4	168.3	124.4	137.8	143.4	1283.	151.4
SUM	295	450	573	883	358	814	674	293	876	124	254	538	222
	6.513	0.777	1.436	1.698	0.689	2.777	0.422	3.835	5.276	1.049	4.947	4.591	6.003
SSD	892	713	744	478	035	494	860	560	911	196	004	779	066
OBS	56	56	56	56	56	56	56	56	56	56	56	56	56

Source: EViews computed. The data are natural logs of Foreign Direct Investment (FDI), Gross Fixed Capital Formation (GFCF), Kenya's GDP (KGDP), Imports (M), Manufacturing Value Added (MVA), Official Development Assistance (ODA), Real Effective Exchange Rate (REER), Secondary School Enrollment (SCH), Savings (SVG), Tax level (TAX), Trade Deficit (TDFCT), Uganda's GDP (UGDP), Exports (X).

Correla	tion										
t-											
Statisti		LNUGD				LNREE			LNKG	LNGF	
С	LNX	Р	LNTAX	LNSVG	LNSCH	R	LNODA	LNMVA	DP	CF	LNFDI
	1.00000						-			-	
LNX	0										
LNUG	0.95007	1.00000									
DP	8	0									
	22.3760										
	0										
LNTAX	0.63507	0.66243	1.00000								
	6	0	0								
	6.04160	6.49804									
	8	9									
LNSVG	0.81204	0.78229	0.48832	1.00000							
	6	3	9	0							
	10.2250	9.22870	4.11210								
	8	9	4	0 74044	1 00000						
LNSCH	0.90839	0.96249	0.60496	0.74911	1.00000						
	15 06/9	26 0609	5 50222	9 21000	0						
	13.9040	20.0090	1.30333	5.51000							
	-	-	-		_						
LNREE	0 16744	0 37064	0 19188	0 24275	0 47822	1 00000					
R	1	2	8	6	4	0					
	-	-	_	-	_						
	1.24805	2.93251	1.43678	1.83888	4.00144						
	6	9	1	9	0						
	-		-	-		-					
LNOD	0.09410	0.03328	0.09471	0.16180	0.13156	0.60042	1.00000				
Α	8	3	0	5	2	0	0				
	-	0.04474	-	-	0.07505	-					
	0.69463	0.24471	0.69911	1.20489	0.97525	5.51738					
	4	4	C	0	3						
	0 00267	-	0 12860	0 13673	0 23051	0 61050	0 61/11	1 00000			
Δ	0.00207	4	3	8	0.20001	0.01330 7	6	000000			
<u></u>		-		-	-		-				
	0.01964	1.04965	0.95362	1.01434	1.81284	5.79934	5.71809				
	8	0	8	5	8	3	5				
						-	-	-			
LNKG	0.95297	0.99177	0.67036	0.77376	0.93154	0.28267	0.00864	0.08969	1.0000		
DP	9	9	2	2	2	9	1	8	00		
						-	-	-			
	23.1092	56.9556	6.63868	8.97581	18.8250	2.16558	0.06349	0.66181			
	4	0	3	9	1	6	9	1			
	0.00464	0.05040	0.65404	0 70247	0.00004	-	0.01010	-	0 0 0 5 4	1 0000	
	0.00401	0.00240 g	0.00124	0.79517	0.00004	0.47343	0.01219	0.11922	0.0204	1.0000	
<u>.</u>	0	0	0	I	9	- 0	5	-	01	00	,
	9 95745	11 9838	6 30622	9 57076	12 8963	3 94993	0 08962	0 88237	10 746		
	6	00000	3.00022	7	7	0.0 ، 0.00 ۲۰۰۰ ۸	4	5.00207	35		
	0	0	0			-		-	20		
	0.60699	0.71290	0.50431	0.45153	0.64721	0.40181	0.28314	0.23244	0.7249	0.5525	1.0000
LNFDI	6	9	7	0	3	9	8	7	93	52	00

Table A2: Correlation matrix for variables used in the import and export models

					-		-			
5.61276	7.47057	4.29169	3.71872	6.23896	3.22452	2.16948	1.75623	7.7350	4.8716	
5	1	4	9	5	4	6	4	87	39	

Source: Computed using EViews



Figure A1. Graphical display of variables in levels

Source: EViews Output



Figure A2. Graphical display of the variables in first difference

Source: EViews Output

The Export Model

			Critical Value	
No. of CE(s)	Eigenvalue	Trace Statistic	(0.05)	Prob.**
None *	0.788647	378.5664	239.2354	0.0000
At most 1 *	0.755216	294.6381	197.3709	0.0000
At most 2 *	0.649697	218.6397	159.5297	0.0000
At most 3 *	0.579311	161.9960	125.6154	0.0001
At most 4 *	0.535679	115.2395	95.75366	0.0012
At most 5 *	0.412856	73.81182	69.81889	0.0232
At most 6	0.358214	45.05761	47.85613	0.0895
At most 7	0.239908	21.10862	29.79707	0.3509
At most 8	0.108993	6.295588	15.49471	0.6606
At most 9	0.001182	0.063849	3.841466	0.8005

 Table A3. Unrestricted co-integration rank test (Trace) for the export model

Trace test indicates 6 co-integrating equation(s) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level and **MacKinnon-Haug-Michelis (1999) p-values.

Variable	Coefficients	Standard Error	t-Statistics	
InX(-1)	1.000000			
InGDP(-1)	-3.908860	0.10914	-35.8159	
InTAX(-1)	-0.431339	0.05354	-8.05608	
InSVG(-1)	-0.320189	0.01328	-24.1087	
InREER(-1)	-2.474323	0.07428	-33.3089	
InODA(-1)	-0.696621	0.02913	-23.9136	
InMVA(-1)	-0.634061	0.04790	-13.2369	
InKGDP(-1)	5.404412	0.20255	26.6815	
InGFCF(-1)	-0.119660	0.06345	-1.88597	
InFDI(-1)	0.013245	0.01105	1.19902	
С	-24.17926			

Table A4. Coefficients of the long-run relationship for the export function

Sample (adjusted): 1998Q4 2011Q4. Included observations: 53 after adjustments.

Variable			Standard		
	Coefficient	Coefficient	Error	t-Statistic	Probability
ECT	C(1)	-0.255770	0.143835	-1.778225	0.0852
Δ(InX _{t-1})	C(2)	1.183792	0.200864	5.893496	0.0000
$\Delta(InX_{t-2})$	C(3)	-0.069835	0.266515	-0.262032	0.7950
∆(InGDP _{t-1})	C(4)	-0.008029	1.653572	-0.004856	0.9962
Δ(InGDP _{t-2})	C(5)	-1.224124	1.611744	-0.759502	0.4533
∆(InTAX _{t-1})	C(6)	-0.115654	0.066881	-1.729244	0.0937
∆(InTAX _{t-2}	C(7)	-0.067962	0.054261	-1.252519	0.2197
Δ(InSVG _{t-1})	C(8)	-0.118509	0.045292	-2.616584	0.0136
∆(InSVG _{t-2})	C(9)	-0.035865	0.033053	-1.085093	0.2862
Δ(InREER _{t-1})	C(10)	-0.101549	0.376694	-0.269580	0.7893
Δ(InREER _{t-2})	C(11)	-0.048959	0.407438	-0.120162	0.9051
Δ(InODA _{t-1})	C(12)	-0.100646	0.082304	-1.222852	0.2306
Δ(InODA _{t-2})	C(13)	-0.019572	0.044293	-0.441880	0.6616
Δ(InMVA _{t-1})	C(14)	-0.259160	0.102387	-2.531185	0.0167
∆(InMVA _{t-2})	C(15)	-0.108094	0.082445	-1.311099	0.1995
Δ(InKGDP _{t-1})	C(16)	-2.608397	1.823633	-1.430330	0.1626
Δ(InKGDP _{t-2})	C(17)	3.793954	2.009930	1.887605	0.0685
∆(InGFCF _{t-1})	C(18)	0.082392	0.099199	0.830579	0.4126
∆(InGFCF _{t-2})	C(19)	0.117933	0.102250	1.153376	0.2576
∆(InFDI _{t-1})	C(20)	-0.052456	0.081655	-0.642403	0.5253
∆(InFDI _{t-2})	C(21)	0.171920	0.087441	1.966132	0.0583
Constant	C(22)	0.008909	0.018122	0.491590	0.6265

Table A5: Error correction model for the export function

Regression Diagnostics for the Export Error Correction Model

R-squared	0.757924	Mean dependent variable	0.017923
Adjusted R-squared	0.593936	S.D. dependent variable	0.044269
S.E. of regression	0.028209	Akaike info criterion	-4.004432
Sum squared residuals	0.024669	Schwarz criterion	-3.186575
Log likelihood	128.1175	Hannan-Quinn criterion.	-3.689924
F-statistic	4.621845	Durbin-Watson statistics	2.380890
Probability (F-statistic)	0.000065		

Sample: 1998Q4 2011Q4. Included observations: 53 after adjustments.







The Import Model

Table A6: Unrestricted co-integration rank test (Trace) for	the im	port function
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Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.723002	94.88385	47.85613	0.0000
At most 1	0.269455	29.41284	29.79707	0.0553
At most 2	0.176589	13.40064	15.49471	0.1009
At most 3	0.066167	3.491316	3.841466	0.0617

Trace test indicates 1 co-integrating equation(s) at the 0.05 level. * denotes rejection of the hypothesis at the 0.05 level. **MacKinnon-Haug-Michelis (1999) p-values. Sample (adjusted): 1999Q2 2011Q4. Included observations: 51 after adjustments

Variable	Coefficients	t-statistic		
InM(-1)	1.000000			
InGDP(-1)	-0.685034	0.02904	-23.5853	
InREER(-1)	-0.901103	0.16000	-5.63191	
InODA(-1)	-0.286164	0.08372	-3.41813	
C	17 34906			

Table A7. Coefficients of the long-run co-integrating equation for the import model

C 17.34906 Sample (adjusted): 1998Q4 2011Q4. Included observations: 53 after adjustments.

Table A8. Error correction model for the import function

	Coefficient	Standard Error	t-Statistic	Probability	
ECT	-0.309008	0.056479	-5.471184	0.0000	
∆ (InM _{t-1})	0.525633	0.143363	3.666444	0.0007	
Δ (InM _{t-2})	0.013463	0.140442	0.095859	0.9241	
Δ (InGDP _{t-1})	0.806256	0.745504	1.081492	0.2855	
Δ (InGDP _{t-2})	-0.404779	0.733081	-0.552162	0.5837	
Δ (InREER _{t-1})	-0.403680	0.181445	-2.224803	0.0314	
Δ (InREER _{t-2})	-0.266732	0.190070	-1.403335	0.1677	
Δ (InODA _{t-1})	-0.062951	0.017657	-3.565297	0.0009	
Δ (InODA _{t-2})	-0.026932	0.013304	-2.024333	0.0492	
Constant	-0.004908	0.008249	-0.594997	0.5550	

R-squared	0.741374	Mean dependent variable	0.010429
Adjusted R-squared	0.687243	S.D. dependent variable	0.025392
S.E. of regression	0.014200	Akaike info criterion	-5.502865
Sum squared residual	0.008671	Schwarz criterion	-5.131112
Log likelihood	155.8259	Hannan-Quinn criterion	-5.359907
F-statistic	13.69593	Durbin-Watson stat	2.006015
Probability (F-statistic)	0.000000		

Dependent Variable: Δ (LNM). Method: Least Squares. Sample (adjusted): 1998Q4 2011Q4. Included observations: 53 after adjustments







External Trade Balance

Table A9. Johansen co-integration

Unrestricted Cointegration	Rank Test	(Trace)
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Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None * At most 1 * At most 2 * At most 3 * At most 4 * At most 5 * At most 6 At most 7 At most 8	0.831225 0.763344 0.717048 0.618843 0.549284 0.474443 0.413418 0.305146 0.236107	440.9391 344.8628 267.0407 198.8669 146.7814 103.7479 69.00990 40.20397 20.54508	285.1425 239.2354 197.3709 159.5297 125.6154 95.75366 69.81889 47.85613 29.79707	0.0000 0.0000 0.0001 0.0013 0.0126 0.0579 0.2153 0.3866
At most 9 At most 10	0.100097 0.005653	6.001410 0.306108	15.49471 3.841466	0.6954 0.5801

Trace test indicates 6 cointegrating equation(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**	
None * At most 1 * At most 2 * At most 3 At most 4 At most 5 At most 6 At most 7 At most 8 At most 9	0.831225 0.763344 0.717048 0.618843 0.549284 0.474443 0.413418 0.305146 0.236107 0 100097	96.07632 77.82208 68.17388 52.08543 43.03357 34.73797 28.80593 19.65889 14.54367 5.695302	70.53513 64.50472 58.43354 52.36261 46.23142 40.07757 33.87687 27.58434 21.13162 14 26460	0.0001 0.0017 0.0043 0.0534 0.1060 0.1768 0.1788 0.3652 0.3222 0.6526	
At most 10	0.005653	0.306108	3.841466	0.5801	

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Max-eigenvalue test indicates 3 cointegrating equation(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table

	Coefficient	Std. Error	t-Statistic	Prob.
ЕСТ	-1.109193	0.690540	-1.606268	0.1191
∆InTDFCT(-1)	-0.411955	0.559107	-0.736808	0.4672
∆InTDFCT(-2)	-0.095869	0.270270	-0.354714	0.7254
∆InUGDP(-1)	16.31804	9.462794	1.724442	0.0953
∆InUGDP(-2)	0.873726	8.773748	0.099584	0.9214
∆InREER(-1)	4.127220	2.431206	1.697601	0.1003
∆InREER(-2)	1.183840	2.634858	0.449299	0.6566
∆InODA(-1)	0.219135	0.240813	0.909980	0.3703
∆lnODA(-2)	0.348365	0.227322	1.532476	0.1362
∆InFDI(-1)	-0.038398	0.441906	-0.086893	0.9314
∆InFDI(-2)	0.765596	0.550004	1.391983	0.1745
∆lnSCH(-1)	-2.705951	3.213373	-0.842091	0.4066
∆InSCH(-2)	-0.678394	3.436799	-0.197391	0.8449
∆lnSVG(-1)	-0.273722	0.190713	0.190713 -1.435258	
∆InSVG(-2)	-0.155145	0.156047	0.156047 -0.994219	
∆InTAX(-1)	-1.165222	0.724069	-1.609269	0.1184
∆InTAX(-2)	-0.562676	0.417316	-1.348321	0.1880
∆InGFCF(-1)	4.099950	2.273705	1.803202	0.0818
∆InGFCF(-2)	2.423753	1.149461	2.108601	0.0437
∆InMVA(-1)	-1.515542	0.767149	-1.975553	0.0578
∆InMVA(-2)	-0.684720	0.497032	-1.377619	0.1789
∆lnKGDP(-1)	-0.444466	12.50436	-0.035545	0.9719
∆lnKGDP(-2)	5.216894	11.90566	0.438186	0.6645
Constant	-0.284292	0.145410	-1.955107	0.0603
R-squared	0.895077	Mean dependent	t variable	0.012235
Adjusted R-squared	0.811863	S.D. dependent	variable	0.389282
S.E. of regression	0.168850	Akaike info criter	ion	-0.416943
Sum squared residuals	0.826803	Schwarz criterior	٦	0.475265
Log likelihood	35.04899	Hannan-Quinn c	-0.073843	
F-statistic	10.75625	Durbin-Watson s	1.753882	
Prob.(F-statistic)	0.000000			



Figure A5. Plot of the actual, estimated and residual for the trade balance model



Table A9. Sector specific aid for trade disbursement to Uganda (USD millions)

Time Period	200	200	2004	2005	2006	2007	2008	2009	2010	2011
	Z	3								
Sector(s)										
Transport policy										
and	0.92	1.05	2.55	1.43	1.34	2.67	5.80	10.88	7.24	31.17
administrative										
management										
Road transport										
	51.9	39.2	80.71	45.39	73.78	120.4	175.3	98.60	153.9	162.9
	7	3				6	1		7	9
Rail transport										
-	0.77	0.92				1.17			1.43	3.41
Water transport										
						0.38			0.28	0.27
Air transport										
		0.00	0.63	0.02	0.26	0.03	0.15		0.02	0.05
Storage										
Education and										
training in	0.00									

transport and										
storage										
Communications	1 55	0.20	0.64	0.11	0.40	0.26	0.07	0.07	1 0 2	0.1.1
administrativo	1.55	0.30	0.64	0.11	0.42	0.30	0.37	0.07	1.02	0.14
management										
Telecommunicati										
ons	0 11	0.23	0.57	2 05	0.56	1 47	2 17	0.91	0 12	
Radio/television/p	0.11	0.20	0.07	2.00	0.00		2.17	0.01	0.12	
rint media	1 04	0.53	0 41	0.93	0.31	0.51	9 98	3 46	0.37	0 15
Information and				0.00	0.01	0.01	0.00	00	0.01	00
communication				0.04	0.10	0.14	0.36	0.43	1.15	0.84
technology (ICT)										
Energy policy										
and	2.18	1.52	3.39	3.49	12.17	13.07	12.62	10.91	11.83	7.16
administrative										
management										
Power			10 -0			10.00		o 1 -		
generation/non-	5.96	2.92	16.73	12.47	5.17	19.82	15.27	3.15	0.33	0.11
renewable										
Bower										
rower generation/renew	2.64	0.10	1 80	1 78	0 32	1 20	1 60	2 1/	6 68	8 88
able sources	2.04	0.10	1.00	1.70	0.52	1.23	1.00	2.14	0.00	0.00
Electrical										
transmission/	11.9	15.8	20.86	12.25	5.60	10.48	28.52	24.40	23.25	24.09
distribution	0	6								
Gas distribution										
Oil-fired power										
plants						0.01				
Gas-fired power										
plants										
Coal-fired power										
Nuclear power										
nuclear power							0.21	0.25	0.06	0.02
Hvdro-electric							0.21	0.20	0.00	0.02
power plants	0.03					83.54	41.66	90.80	99.06	29.42
Geothermal										
energy										
Solar energy										
	0.02	0.46	0.35	0.02	0.05	0.07	0.01	0.07	3.64	3.08
Wind power										
				0.06						
Ocean power										
Biomass	0.07	0.00						0.44	0.04	0.40
	0.07	0.02						0.11	0.21	0.46
education/training	0.08				0.05	0.05	0.12	0.26	0.21	
Energy research	0.00				0.05	0.05	0.12	0.20	0.21	
Energy research					0.05	0.08	0 10	0 18	0 16	0.06
Financial policy					0.00	0.00	0110	0.10	0.10	0.00
and	1.00	1.40	7.26	2.79	1.71	7.93	8.00	6.07	3.67	18.36
administrative		-	_	-		'	'	-	-	
management										
Monetary										
institutions								0.34	0.33	0.19

Formal sector										
financial	0.20	3.96	1.21	0.06		38.37	0.24	15.58	2.50	9.09
intermediaries										
Informal/semi-										
formal financial	11.5	4.45	10.26	8.53	10.58	8.95	(2.84)	5.77	12.87	5.14
intermediaries	4									
Education/trainin										
g in banking and		0.05			0.03	0.05		1.09	1.17	0.08
financial services										
Business support										
services and	2.30	7.35	6.77	7.26	10.49	19.83	6.65	9.96	7.31	17.23
institutions										
Privatization										
	0.65	0.96	0.67	0.26	0.41			0.03		
Agricultural policy										
and	6.46	5.46	24.25	30.15	35.44	42.34	40.00	20.61	19.29	31.38
administrative										
management										
Agricultural		10.0								1 - 00
development	2.43	12.6	38.09	50.83	32.39	37.52	14.16	59.55	38.82	45.69
		3								
Agricultural land	0.70	0.00	0.00	0.04		0.07	0.00	0.04	0.07	0.00
resources	0.72	0.36	0.02	0.01		0.07	0.03	0.04	0.07	0.02
Agricultural water	0.40	0.01						0.00	0.00	0.44
resources	0.13	0.01						0.66	0.60	0.44
Agricultural inputs	0.00	0.00	0.04	0.04	0.54	0.07	4 00	0.00	0.00	0.40
	0.09	0.03	0.01	0.04	3.51	0.07	1.83	0.29	0.06	2.49
Pood crop	0.22	1 10	0.40	0.45	1 01	14.02	0.57	0 02	0.02	0.95
Induction	0.23	1.10	0.40	0.45	1.21	14.02	0.57	0.03	0.93	0.00
crops/oxport	0.05	5 76	0.56	0.34	0.05	0.18	1 10	0.75	0.45	0.27
crops	0.05	5.70	0.50	0.54	0.35	0.10	1.10	0.75	0.45	0.27
Livestock										
LIVESTOOK	0.52	0.16	0.31	1 01	6 71	9 74	11 77	1 83	0 74	0 49
Agrarian reform	0.02	0110	0.01		0111				011 1	0110
, igi all all i ci ci ci	0.46								0.01	
Agricultural										
alternative				0.03	0.17	0.21	0.09	11.16		
development					-	-		_		
Agricultural										
extension	7.48	5.42	6.54	10.31	8.58	7.59	10.63	15.00	0.77	2.38
Agricultural										
education/training	0.27	0.71	1.07	1.48	1.39	1.03	0.90	0.97	2.30	3.83
Agricultural										
research	1.55	1.47	4.00	5.19	7.14	14.08	20.59	11.99	1.00	2.34
Agricultural										
services	1.61	2.02	3.76	5.01	13.60	29.05	13.55	6.80	1.14	1.17
Plant and post-										
harvest	0.24	0.01							0.00	
protection and										
pest control										
Agricultural										
financial services	0.00						0.09	0.03	0.01	0.27
Agricultural co-										
operatives		0.39	0.74	0.80	0.98	0.71	1.15	1.15	1.43	1.64
Livestock/veterin										
ary services	0.01	0.08	0.00	0.07	0.07	0.58	0.40	0.12	1.88	3.30

Forestry policy and administrative	3.44	4.73	12.16	5.89	5.62	15.04	1.47	2.42	0.84	1.89
Forostry										
development	4 4 1	0.22	0.08	0.23	0 15	0 14	0.09	0.02	2 21	1 13
Fuel	7.71	0.22	0.00	0.20	0.10	0.14	0.00	0.02	2.21	1.10
wood/charcoal								0.06	0.05	0.08
Forestry										
education/training	0.04		0.11	0.06		0.03				
Forestry research										
Forestry services										
-								1.21	2.24	1.59
Fishing policy and administrative management			0.02	0.10	0.05		0.02	0.05		1.34
Fishery	1 0 2	0.06	0.44	1 1 2	2.96	1 61	10.61	0.00	0 5 0	0.40
Eisbory	1.03	0.96	0.44	1.13	3.80	1.01	10.61	8.38	0.52	0.40
education/training				0.05	0.03			0.05	0.00	
Fishery research				0.00	0.00			0.00	0.00	
Fishery services										
									1.48	0.93
Industrial policy and administrative management		0.01	0.48	0.86	4.03	2.58	4.46	6.71	3.93	3.91
Industrial	1 / 2	0.57	0.70	0.61	0.24	0.72	0.00	0.38	0.14	0.18
Small and	1.42	0.57	0.70	0.01	0.24	0.72	0.09	0.50	0.14	0.10
medium-sized enterprises (SME) development	0.37	6.01	4.31	3.05	4.05	3.97	2.38	24.94	8.09	11.35
Cottage										
industries and handicraft			0.11	0.04	0.20	0.53	0.68	0.72	0.34	0.39
Agro-industries										
	0.93	0.64	2.54	3.18	3.87	1.50	2.20	2.27	5.10	4.93
Forest industries						0.02	0.11	0.02		0.04
Textiles leather						0.03	0.11	0.03		0.04
and substitutes	0.28		0.52	0.62	0.07	0.08		0.03		
Chemicals	0.20		0.02	0.02	0.07	0.00		0.00		
Fertilizer plants										
Cement/lime/plas										
ter				0.24	0.05	0.00				
Energy										
Dharmaasutiaal										
production										
Basic metal industries			0.28		0 12	0 02	0.03			
Non-ferrous										
Engineering										

		0.10	0.10	0.13	0.03	0.13	0.26	0.31	0.57	2.89
Transport										
equipment										
industry										
Technological										
research and	0.09	0.29	0.01	0.01	2.85	1.39	1.74	2.27	0.91	0.71
development										
Mineral/mining										
policy and			0.46	0.16	2.03	3.76	3.07	7.41	4.76	9.77
administrative										
management										
Mineral										
prospection and		0.07	0.60	0.23	0.98	2.52	3.54	3.72	1.69	1.94
exploration										
Coal										
Oil and gas										
Ũ							0.48	0.01	2.59	1.66
Ferrous metals										
Nonferrous										
metals										
Precious										
metals/materials										
Industrial										
minerals										
Fertilizer minerals										
		0.44			0.08	0.08	0.11	0.09		
Offshore minerals										
Trade policy and										
administrative	0.95	0.31	(0.00)	1.54	1.27	15.66	2.42	3.73	7.99	3.93
management			· · /							
Trade facilitation										
		0.02	0.01				0.19	0.27	0.07	6.77
Regional trade										
agreements			0.04	0.21	0.19	0.06				
(RTAs)										
Multilateral trade										
negotiations	0.12							0.55		
Trade-related										
adjustment										
Trade										
education/training				0.20	0.00	0.02	0.00	0.06	0.18	0.18
Tourism policy										
and	0.12	1.17	1.32	1.29	0.61	0.81	0.31	0.08	0.11	0.17
administrative										
management										
V. TOTAL										
SECTOR	653.	875.	1,034	1,060	1,108	1,365	1,261	1,524	1,538	1,427
ALLOCABLE	91	89	.46	.32	.06	.29	.55	.74	.40	.46
(I+II+III+IV)										

Table A10. Agriculture aid funded projects 1988-2013

Project Title	Activity Code	Donor	Aid Commitment	Aid Disbursements
SUPPORT TO PMA SECRETARIAT	Aid to education ministries	European Union United Kingdom	27728926	25171432
SUPPORT TO FISHERIES DEVELOPMENT PROGRAMME	Aid to education ministries	African Development Fund China Sweden	73261068	34786135
NORTHERN UGANDA POST WAR RECOVERY PLAN	Education policy and administrative management	Denmark / DANIDA Austria European Union	37755303	11942894
ASPS/NAADS AGRICULTURE SECTOR BUDGET SUPPORT	Community participation and development	Denmark/DANIDA	1010253	4004558
UGANDA MEAT EXPORTS DEVELOPMENT PROJECT	n/a	Norway	3430510	0
AGRICULTURE SECTOR PROGRAM SUPPORT - HASP	Community participation and development	Denmark/DANIDA	8245333	2645885
AGRICULTURE SECTOR PROGRAM SUPPORT - FARMER ORGANISATIONS	Community participation and development	Denmark/DANIDA	10452545	8365742
AGRICULTURE SECTOR PROGRAM SUPPORT - LSRP/NARO	Community participation and development	Denmark/DANIDA	9463105	1022218
AGRICULTURE SECTOR PROGRAM SUPPORT - MOES	Community participation and development	Denmark/DANIDA	14993820	4420627
MAAIF COORDINATION/U- GROWTH	Education policy and administrative management	Denmark/DANIDA	90890870	0
RESTORATION OF AGRIC. LIVELIHOODS IN NORTHERN UGANDA PHASE 2 (RALNUC2)	Education sector policy	Denmark/DANIDA	0	0
30 UNITS OF 18 HORSEPOWER HAND TRACTORS	Community participation and development	China	84428.1	0
AGRICULTURAL IMPLEMENTS	Community participation and development	China	337428.6	0
SENIOR AGRICULTURAL EXPERTS	Education	China	303403.1	0
AGRICULTURAL BIOTECHNOLOGY SUPPORT PROGRAM II (ABSP II)	Community participation and development	United States of America	0	0
COMMUNITY CONNECTOR	Conflict prevention and resolution / Oil	United States of America	0	0

	and gas			
AGRICULTURAL PLANNING ADVISER	Community participation and development	Japan	0	0
IRRIGATION ADVISER	Education policy and administrative management	Japan	0	0
THE PROJECT FOR IMPROVING AGRICULTURAL PRODUCTIVITY THROUGH PROMOTING ANIMAL TRACTION IN 5 DISTRICTS IN EASTERN UGANDA	Education	Japan	0	0
THE PROJECT FOR ALLEVIATION OF POVERTY THROUGH COFFEE PROCESSING	Education	Japan	0	0
THE PROJECT FOR SUPPORTING FARMERS' GROUP IN LANGO REGION	Education	Japan	0	0
THE PROJECT FOR THE EMERGENCY RELIEF ASSISTANCE TO POPULATIONS AFFECTED BY THE LANDSLIDES AND FLOODS IN EASTERN UGANDA	Education	Japan	105062.8	100780.8
PROJECT FOR IMPROVING AGRICULTURAL PRODUCTIVITY THROUGH PROMOTING ANIMAL TRACTION	Education policy and administrative management	Japan	45374.24	0
POVERTY ALLEVIATION THROUGH COMMERCIALISATION OF AGRICULTURE	Education policy and administrative management	Norway	0	0
IMPLEMENTATION OF A FISHERIES MANAGEMENT PROJECT FOR LAKE VICTORIA	Education policy and administrative management	European Union	43596621	30806339
FARMER'S VOICE "IMPROVING FOOD SECURITY GOVERNANCE IN EAST AFRICA"	Education policy and administrative management	European Union	0	0
COMMUNITY REHABILITATION PROGRAMME IN ACHOLILAND, NORTHERN UGANDA	Elementary vocational training and secondary level technical	European Union	945932.2	683558.6

	education			
ESTABLISHING AN EXPORT MARKET FOR CERTIFIED RESPONSIBLE COFFEE WITH SMALLHOLDER PRODUCER GROUPS IN UGANDA	Elementary vocational training and secondary level technical education	European Union	790286.3	797922.2
TECHNICAL ASSISTANCE TO IMPROVE NATIONAL DIAGNOSTIC CAPACITY FOR ANIMAL DISEASE CONTROL IN UGANDA	Aid to education ministries	Japan	6885249	0

Table A11. Information and communication technologies aid funded projects

Project Title	Activity	Donor	Aid Commitment	Aid
	Code			Disbursements
NATIONAL	n/a	China	102000000	82945049
TRANSMISSION				
BACKBONE PROJECT				
TECHNICAL	n/a	China	69280.32	70924.5
ASSISTANCE FOR				
BROADCASTING AND				
TELEVISION				
TELECOMMUNICATIONS	n/a	Belgium Nordic	18742267	15241739
- NURP		Development Fund		
ICT4DEVELOPMENT	n/a	Austria	0	0
BOSCO UGANDA				

Table A12. Tourism, trade and industry

Project Title	Activity	Donor	Aid Commitment	Aid
	Code			Disbursements
SUPPORT TO UGANDA	n/a	China	7069055	7997365
INDUSTRIAL RESEARCH				
INSTITUTE (UIRI)-				
NAKAWA				
EAST AFRICA TRADE &	n/a	International	60071458	11853632
TRANSPORT		Development		
FACILITATION PROJECT		Association		
KIGEZI BUSINESS	n/a	Austria	874485.4	0
DEVELOPMENT				
SERVICES				
BUSINESS MENTORING	n/a	Ireland	0	0
AND REGIONAL TRADE				
PROMOTION				
SUPPORT TO	n/a	Sweden	0	0
TRADEMARK E. AFRICA				
COUNTRY STRATEGY				
FOR EAC TRADE				
FACILITATION				
GLOBAL BUSINESS	n/a	Sweden	0	0
LABS IN KAMPALA-				
ACCELERATING				
ENTREPRENEURSHIP IN				
EAST AFRICA				

Table A13. Works and transport

Project Title	Activity	Donor	Aid Commitment	Aid
	Code			Disbursements
RECONSTRUCTION OF	n/a	International	188000000	0
TORORO-SOROTI ROAD		Development		
		Association		
CONSTRUCTION OF	n/a	China	42311279	25464568
GOVERNMENT OFFICE				
BLOCK				
KARAMOJA ROAD	n/a	European Union	15237974	5564615
DEVELOPMENT		-		
PROGRAMME				
CONSTRUCTION OF	n/a	European Union	58504626	61561277
KAMPALA BY-PASS				
REHABILITATION OF	n/a	European Union	74298979	62554039
KAMPALA CITY ROADS -				
EEC				
STRENGTHENING THE	n/a	European Union	138000000	31449598
NORTHERN CORRIDOR				
UPGRADING	n/a	African	91530262	25992815
FORTPORTAL-		Development Fund		
BUNDIBUGYO-LAMIA				
ROAD				
UPGRADING OF GULU-	n/a	International	84738796	0
ATIAK -NIMULE ROAD		Development		
PROJECT		Association Japan		
NORTHERN CORRIDOR-	n/a	European Union	177000000	0

MBARARA-KATUNA				
ROAD		European Union	40000750	0
	n/a	European Union	13298753	0
PROGRAMME-				
INSTITUTIONAL				
CAPACITY BUILDING				
KAMPALA-ENTEBBE	n/a	China	0	0
EXPRESS HIGHWAY				
SURFACE TRANSPORT	n/a	Belgium	1573489	494356.6
COORDINATION -				
UGANDA, RWANDA &				
DRC			0	0
	n/a	Arab Bank for	0	0
		Economic Development in		
ROAD FROJECT		Africa I		
		Organisation of		
		Petroleum		
		Exporting Countries		
CONSTRUCTION OF A	n/a	Japan	122000000	0
NEW BRIDGE ACROSS				
RIVER NILE AT JINJA				
PROJECT			45544530	40707700
	n/a	Denmark/DANIDA	45541573	43787728
8 DISTRICTS ROAD	n/a	Denmark/DANIDA	35266864	19868886
NETWORK - FEEDER	n/a	Definition	00200004	10000000
ROADS				
RSISTAP - STUDIES	Feasibility	International	42919586	29237041
	study for	Development		
	and design	Association		
	of the			
	Kampala-			
	Gayaza- Zirobwo			
	road and			
	Zirobwe-			
	Wobulenzi			
	road			
ISHAKA-KAGAMBA	n/a	African	23785173	0
ROAD		Development Fund		
39000 RECHARGEABLE	n/a	China	758598.5	0
KCC ROAD LINIT AND	n/a	China	10310832	0
SANITATION	n/a	Ghina	10319032	0
EQUIPMENT				
REHABILITATION OF	n/a	Japan	0	0
DISTRICT ROADS				
THE PROJECT FOR	n/a	Japan	14531767	5696245
SOCIAL				
INFRASTRUCTURE				
DEVELOPMENT FOR				
AND RESETTLEMENT				

OF INTERNALLY				
DISPLACED PERSONS				
THE PROJECT FOR	n/a	Japan	88892.97	88127.63
STREET LIGHTS				
INSTALLATION IN				
TORORO MUNICIPALITY				
CREATING	n/a	United Kingdom	0	0
OPPORTUNITIES FOR				
SUSTAINABLE				
SPENDING ON ROADS-				
CROSS ROADS (WSP)				
KAMPALA MASAKA	n/a	European Union	16400000	10900000
ROAD				
KAMPALA NORTHERN	n/a	European Union	0	0
BYPASS PHASE II				

References

- Adam S. C. and Bevan, L. D. Aid and the Supply Side: Public Investment, Export Performance and Dutch Disease in Low-Income Countries in *World Economic Review*. Vol. 20, No. 2, pp. 261-290.
- Addison, T. Arndt, C. and Tarp, F. 2009. The Triple Crisis and the Global Aid Architecture. Helsinki, UNU-WIDER.
- Bahmani-Oskooee, M. 1998. "Cointegration Approach to Estimate the long run trade Elasticities in LDCs in *International Economic Journal*. Volume 12, Number 3.
- Burnside, C. and Dollar, D. 2000, 'Aid, Policies, and Growth', *American Economic Review* 90(4), 847-68.
- Easterly, W. Levine, R. Roodman, D. 2003. New Data, New Doubts: A Comment on Burnside and Dollar's "Aid, Policies, and Growth".
- Easterly, W. 2003. 'Can Foreign Aid Buy Growth?', Journal of Economic Perspectives. 17(3), 23-48.
- Easterly, W. Levine, R. and Roodman, D. 2004. 'New Data, New Doubts: A Comment on Burnside and Dollar's "Aid, Policies, and Growth". *American Economic Review.* 94(3), 774-80.
- Funke, M. and Holly, S. 1992. The Determinants of West German Exports of Manufactures: An Integrated Demand and Supply Approach. Weltwirtschaftliches Archive. 128(3). pp. 498-512.
- Geda, A., Ndug'u, N. Zerfu, D. 2012. Applied Time Series Econometrics: A Practical Guide for Macroeconomic Researchers with a Focus on Africa. Nairobi, University of Nairobi Press and African Economic Research Consortium.
- Guloba, M. Kilimani, N. and Nabiddo, W. 2010. Impact of China-Africa Aid Relations: A Case Study of Uganda.
- Haider, J. Afzal, M. and Riaz, F. 2011. Estimation of Import and Export Demand Functions Using Bilateral Trade Data: The Case of Pakistan. Business and Economics Horizons. 6(3). pp. 40-53.
- Helble, M. Mann, C and Wilson, J. S. 2009. Aid for Trade Facilitation. Research Working Paper 5064. Washington D. C. World Bank Development Research Group.
- Hoekman, B. and Njinkeu, D. 2007. Aid for Trade and Export Competitiveness: New Opportunities for Africa.
- Jeanne, D. and Njoroge, J. 2012. Africa Review. Tuesday December 4, 2012.
- Kotan, Z. and Saygili, M. 1999. Estimating and Import Function for Turkey. Ankara, Central Bank of the Republic of Turkey.
- Majeed, M. T. and Ahmad, E. 2006. Determinants of Exports in Developing Countries. *The Pakistan Development Review* 45(4 Part II) pp. 1265-1276.
- Mevel S. *et al.* 2013. The Africa Growth and Opportunity Act: An Empirical Analysis of the Possibilities Post-2015. Washington, AGI at Brookings and UNECA.
- Ministry of Agriculture Animal Industry and Fisheries. 2010. Agriculture for Food and Income Security: Agriculture Sector Development Strategy and Investment Plan. Kampala, MAAIF. July 2010.

- Ministry of Finance, Planning and Economic Development. 2007. The Republic of Uganda Debt Strategy. Kampala, Ministry of Finance Planning and Economic Development.
- Mugabe, D. 2013. "World Bank stops supporting Uganda's budget" in The New Vision of April 25, 2013.
- Muhwezi, S. 2013. "Uganda Can Still Salvage AGOA" in New Vision, Thursday 29, 2013. Kampala, The New Vision.
- OECD and WTO. 2006. Aid for Trade at a Glance 2007. OECD, Paris.
- OECD and WTO. 2009. Aid for Trade at a Glance 2009. OECD, Paris.
- OECD Website: www.oecd.org/
- OECD. 2005. Paris Declaration on Aid Effectiveness. Paris, OECD.
- OECD. 2006. Aid for Trade: Making it Effective. OECD, Paris.
- OECD. 2006. Trade-Related Assistance: What Do Recent Evaluations Tell Us? OECD, Paris.
- OECD. 2006. Trading Up: Economic Perspectives on Development Issues in the Multilateral Trading System. OECD, Paris.
- OECD. 2009. Binding Constraints to Trade Expansion: Aid for Trade Objectives and Diagnostic Tools. OECD, Paris.
- OECD. 2009. Increasing the Impact of Trade Expansion on Growth: Lessons from Trade Reforms for the Design of Aid for Trade. OECD, Paris.
- OECD. 2009. Trading Out of Poverty: How Aid for Trade can help. OECD, Paris.
- Onafowora O. (2003) "Exchange rate and trade balance in East Asia: Is there a J-curve?" *Economics Bulletin,* Vol. 5, No. 18 pp. 1–13
- Price Water House Coopers. 2009. Aid for Trade: Making Trade Effective for Development Case Studies for Kenya, Tanzania and Uganda. Hamburg, Hamburg Institute of International Economics.
- Rajan, R. G. and Subramanian, A. 2005. Aid and Growth: What Does the Cross-Country Evidence Really Show? IMF Working Paper WP/05/127. IMF.
- Rogers, A. 2000. An Analysis of the Determinants of Fiji's Imports. Working Paper 2000/03. Suva, Economics Department, Reserve Bank of Fiji.
- Rotarou and Ueta. 2009. "Foreign Aid and Economic Development: Tanzania's Experience with ODA" in Kyoto Economic Review. 78(2): 157-189.
- Rudaheranwa, N. (2005). Institutional Challenges Facing Uganda's Participation in WTO Negotiations. Kampala, Economic Policy Research Center.
- Rudaheranwa, N. (2005). Uganda's Challenges in Complying with WTO Agreements. Kampala, Economic Policy Research Center.
- Sachs, J. 2005. The End of Poverty: How we can make it Happen in our Lifetime. Penguin Books.
- Shirvani, H. and Wilbratte, B. 1997. The Relationship between the Real Exchange Rate and the Trade Balance: An Empirical Reassessment. International Economic Journal 39. Volume 11, Number 1, Spring 1997.
- Sinha, D. 1997. Determinants of Import Demand in Thailand. International Economic Journal. 11(4).

- UNCTAD. 2004. Export Performance and Its Determinants: Supply and Demand Constraints. New York and Geneva. United Nations.
- UNCTAD. 2008. Aid for Trade and Development: Global and Regional Perspectives. New York and Geneva, United Nations.
- Wacziarg, R. and Welch, K. H. 2003. Trade Liberalization and Growth: New Evidence. Stanford, NBER and Stanford Graduate School of Business.
- Warner, D. and Kreinin, M. E. 1983. Determinants of International Aid Flows. *The Review of Economics and Statistics*. 65(1). pp. 96-104.
- World Bank. 2006. Uganda Diagnostic Trade Integration Study (DTIS). Washington D.C. The World Bank.
- World Bank. 2013. Uganda Diagnostic Trade Integration Study (DTIS) Update: Prepared for the Enhanced Integrated Framework. Washington D.C. World Bank.
- Zada, N. et al. Determinants of Exports of Pakistan: A Country-wise Disaggregated Analysis. Islamabad, International Islamic University.