Trade, employment and gender: the case of Uganda

by

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Introduction

The relationship between increased openness to international trade and labour market outcomes continues to be of considerable interest both for policy makers and researchers. At the theoretical level, freer trade generates dynamic or efficiency-enhancing gains that stimulate economic growth (the classical trade theory). If markets are sufficiently flexible, opening up to international trade would induce short-term shifts of labour from previously protected sectors to those in which a country has a comparative advantage. This provides the basis for assessing the net effects of trade policy shocks on aggregate employment[1].

In the framework of the new growth theory, increased openness may facilitate diffusion and adoption of superior production techniques. Exposure to increased competition can also induce innovative practices and generation of knowledge. The spirit of the new growth theory also allows for some level of protection to certain sectors if, for example, they generate large multiplier effects or if such protection promotes more technologically dynamic sectors (Rodriguez and Rodrik, 1999). One important implication of the new growth theory is that whereas trade openness is positively associated with growth, it may impose significant adjustment costs in the labour market.

The theoretical propositions linking trade policy reform and labour market outcomes have been the subject of considerable empirical research – see, among others Cline, 1997; Gatson and Nelson, 2000; Greenaway and Nelson, 2001, Feenstra and Hanson, 2004 and Hoekman and Winters, 2005 for a survey of the literature. The findings of the empirical studies are quite diverse and different authors have always found enough justification to support their positions. Developed countries and developing countries in Latin America are more than proportionately represented in the empirical research that has been undertaken on the subject. Very few studies have been undertaken in the particular context of African countries and to the best of our knowledge there are no studies exploring the trade-employment nexus in Uganda.

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[1] This is at the theoretical level predicted to be positive in developing countries owing to the abundant supply of relatively lower skilled labour.

It is in this context, that the present study seeks to establish the nature of the relationship between the recent trade policy reforms as well as efforts at regional integration, on the one hand, and labour market outcomes (employment), on the other. From a policy perspective, this is important because employment is a key channel through which the benefits of trade and growth can be shared, especially in economies with weak safety nets.

The next section presents an overview of aggregate trade and employment trends followed by a sectoral analysis in section 3. Section 4 presents the econometric model and discusses the results. Section 5 concludes with some policy implications.

2.   Overview of trade and employment trends in Uganda

Uganda's external trade policy has undergone substantial reform starting the mid 1990s in line with the policy based lending programme of the World Bank and World Trade Organization (WTO) rules. At the heart of the reform process has been reduction and harmonization of tariffs, exchange rate devaluation, and relaxation of quantitative trade barriers. Uganda also continues to participate actively in regional economic groupings. It is a founding member of the East African Community (which is now a Customs Union). It also gives preferential market access to imports from the COMESA trading.

The tariff reform process has resulted in a decline in the average MFN rate from 19 percent in 1994 to 11 percent in 2005 though it rose slightly to 15 percent in 2008 following the implementation of the CET in the East African Community. The number of tariff lines in the lower bands (of 0 and 1-10) has also increased (Figure 1).

**Figure 1: Ad Valorem MFN tariff bands in Uganda**
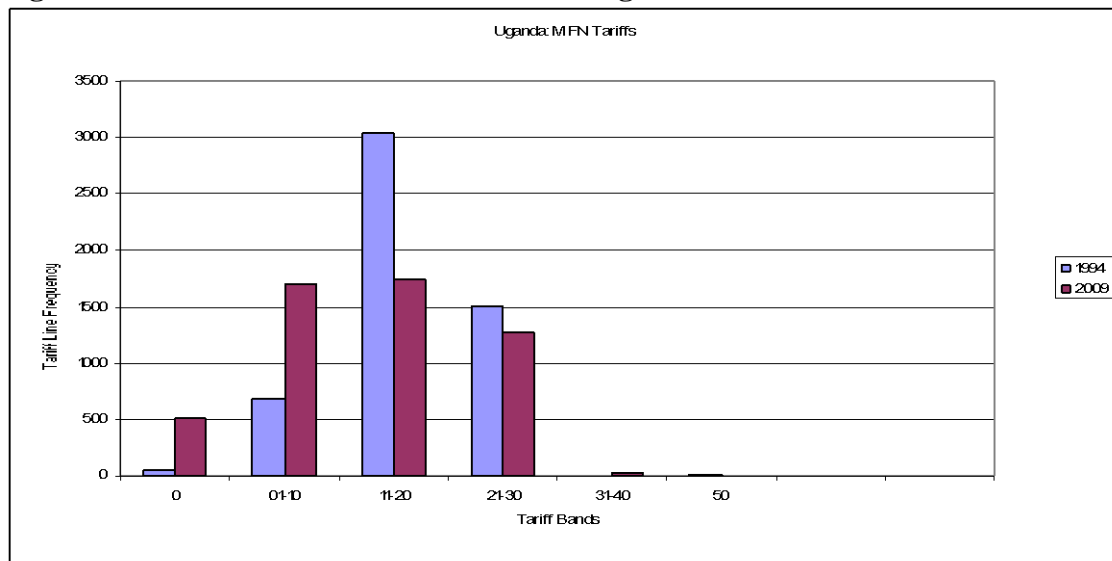
Source: Author's computation from the TRAINS data set in WITS.

At the conceptual level, the relationship between tariff reduction and labour market outcomes is indirect and is mediated, among other things, by the response of domestic import-competing industries through the elasticity of supply, the domestic economy's

elasticity of demand for imports and the nature of imports themselves, that is, whether they are production inputs or final consumption goods. Uganda's import demand elasticity is estimated to be -1.22 (Hiau et al., 2005). In general, this suggests that there is only limited substitutability between imports and locally produced goods. There is little wonder that the tariff reductions which have been undertaken as part of the trade policy reform process have resulted in increased imports (Figure 2).

Figure 2: Import as a percentage of GDP
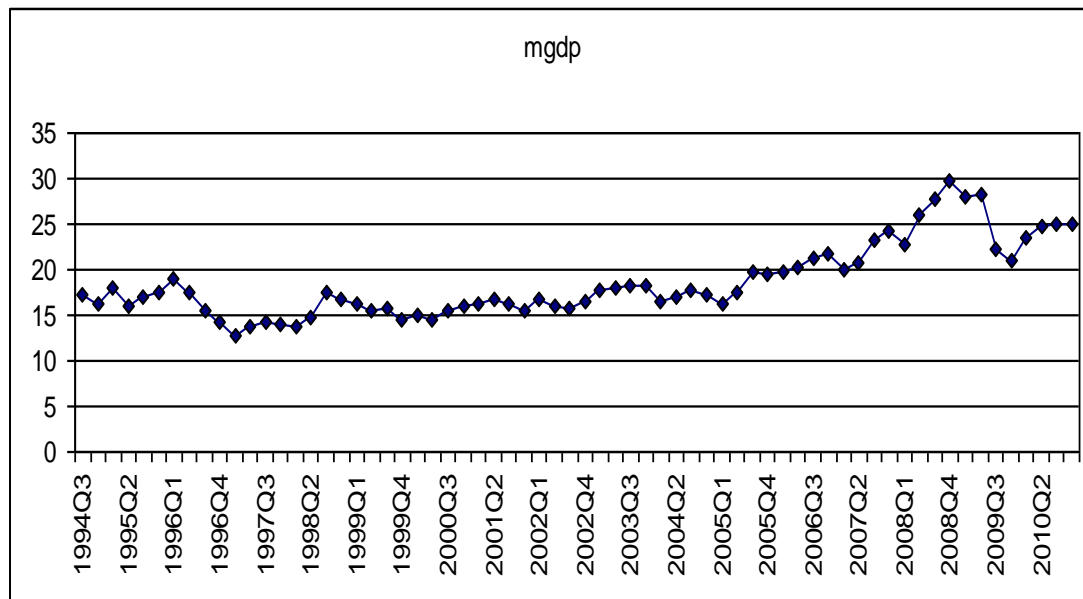
Whereas the implications of increased imports for employment in Uganda have not been examined, there is no doubt that some employment opportunities have been created, especially in marketing and distribution chains. The major categories of Uganda's imports are machinery and equipment, oil and petroleum products, and other categories of final consumer goods that are not locally available (Table 1).

Table 1: Uganda's main import commodities (% of Total)									
	2002	2003	2004	2005	2006	2007	2008	2009	2010
Mineral fuels & oils	16.3993	13.82	14.33	19.63	21.19	18.85	19.13	17.60	20.11
Iron & steel	4.87146	5.34	3.73	2.02	5.23	4.66	6.48	4.95	4.79
Nuclear reactors, boilers, etc	8.16733	8.70	9.26	8.75	7.09	7.66	8.07	10.09	11.03
Electrical machinery, equipment, etc;	7.51477	7.41	9.88	8.38	9.62	13.83	11.58	10.56	8.88
Vehicles	10.041	8.45	6.84	7.09	8.76	8.54	7.70	9.06	9.23

**Source:** Author's tabulation from the TRAINS data set in WITS

The main sources of imports are presented in Appendix Table 2.

It is generally plausible to assume that the displacement effect of imports is quite limited owing to the structure of Uganda's imports.

Uganda's tariff code grants duty exemptions on inputs that are not locally available especially capital inputs and other raw materials. This is in principle intended to encourage investment in value addition activities, employment and overall economic activity. The value of duty-exempted imports as a proportion of total imports provides an insight into imports of capital inputs and raw materials. This has increased at the rate of about 2 percent per quarter since 1997. The modest increases in manufacturing sector growth and employment over the past few years can partly be attributed to these incentives (see Table 5).

Whereas the average tariffs have declined considerably over the trade policy reform period, there is still considerable variation in the protective effect of the tariff code on different industries (Figure 3 & Table A1) which reflects the concerns that policy makers have had about employment and jobs.

Figure 3: Average MFN Tariff by Sector[2]
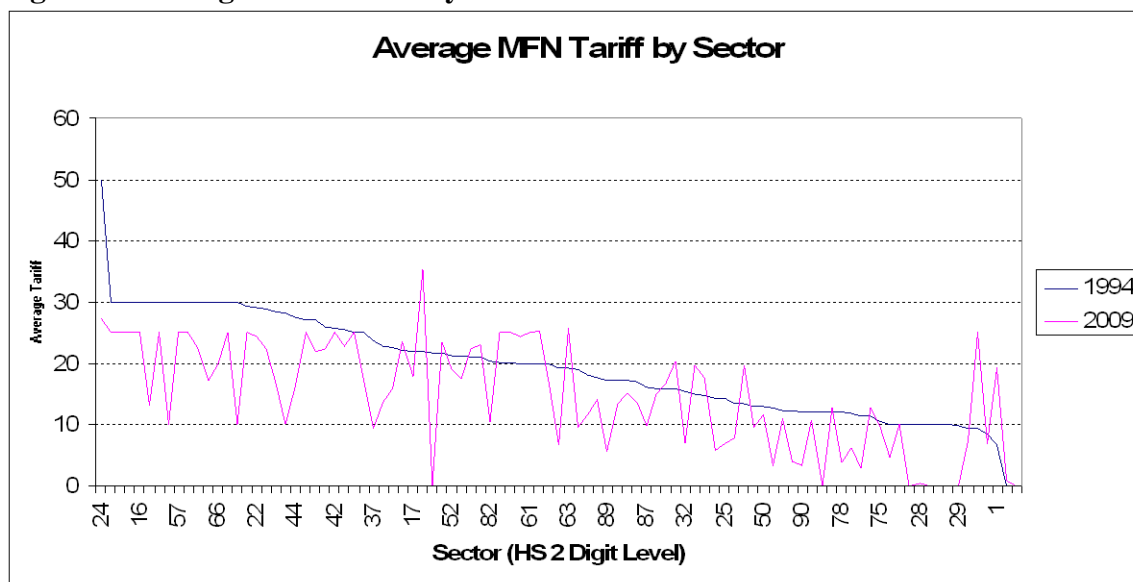
Domestic sectors producing diary products; tobacco and manufactured tobacco substitutes, articles of apparel and clothing accessories; and meat and edible meat offals, cement; tea and coffee are also offered higher than average protection. In general, the agricultural sector – which is the main employer – is on average afforded a tariff protection of 33.2 percent compared to the non-agricultural sector (9 percent). Employment and protection of existing jobs is thus a major consideration in the formulation of Uganda's trade policy.

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[2] The labels of the sectors are provided in appendix Table A1.

With regard to the promotion of production for export, government sought to eliminate the implicit tax on exports by liberalizing the exchange rate in 1993. Direct taxes on exports were reduced to zero in 1998. Uganda also continues to participate actively in regional economic groupings with the intention of expanding the market for her products. The overall performance of exports over the trade policy period has been fairly impressive (Figure 4). The recent export performance pattern is largely the result of new market opportunities in the Democratic Republic of Congo, Sudan and Rwanda as opposed to systematic trade policy.

Figure 4: Exports as a Percentage of GDP
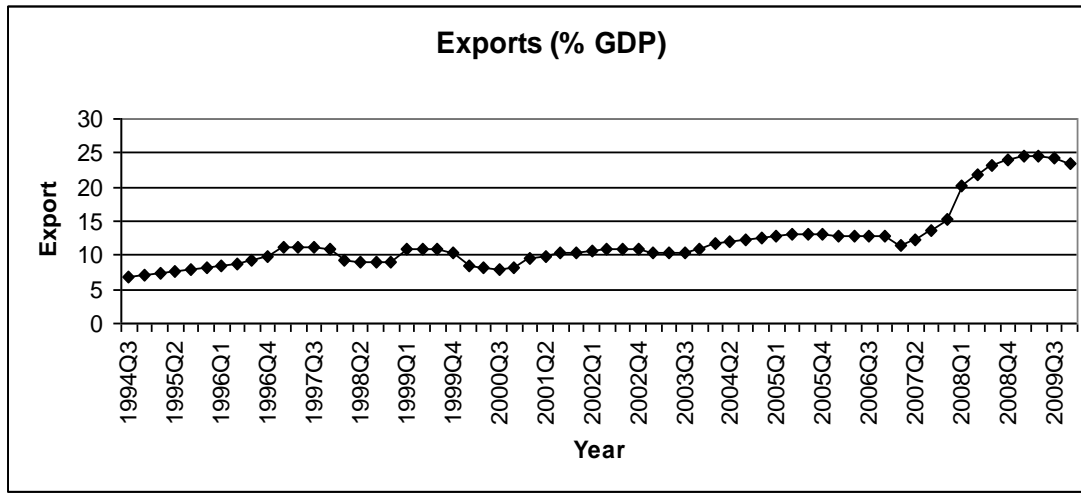
Whereas the European Union and the more developed countries in general continue to be a major destination for Uganda's exports, the regional market is increasingly becoming important (Table 2 and graph A1).

Table 2: Uganda's major export destinations (% of Total)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Developed Countries	65.84	62.33	66.81	66.86	59.97	52.15	49.56	44.98	42.19
United Arab Emirates	1.56	2.67	5.61	10.64	19.37	9.27	2.41	1.44	0.82
Burundi	0.44	0.67	1.41	2.01	2.14	2.91	2.67	3.78	3.46
Switzerland	15.94	15.26	19.10	10.69	4.72	7.83	11.50	7.90	4.85
China	0.17	0.17	0.82	0.79	0.72	1.30	0.77	1.27	1.89
Congo, Rep.	2.01	2.76	1.86	1.16	0.84	3.25	1.09	0.38	0.00
EU27	36.66	31.11	30.93	35.99	27.56	28.95	30.66	28.58	30.95
Hong Kong	3.10	2.64	2.75	1.87	1.29	0.93	1.18	1.48	1.61
Kenya	13.45	15.50	11.97	9.29	9.15	10.05	11.20	13.60	14.25
Rwanda	1.72	3.05	3.08	3.72	3.17	6.59	8.83	10.76	10.51
Sudan	1.27	2.81	3.79	5.56	9.54	11.12	13.40	10.12	10.00
Singapore	2.02	2.98	3.84	4.14	3.59	2.05	1.93	2.16	2.08

Tanzania	1.18	1.11	2.02	1.84	1.43	2.49	1.95	2.26	2.25
United States	2.07	2.63	2.62	2.33	1.48	1.57	1.03	2.92	1.77
DRC	0.73	1.36	3.08	4.24	4.66	5.55	6.32	7.25	8.70

Source: Author's tabulation from the TRAINS data set in WITS

The main export destinations of Uganda's exports in the region are Kenya, Sudan, Rwanda and the Democratic Republic of Congo. These exports to the regional market reflect niche products such as coffee and tobacco for the Kenyan market and basic electrical items and beverages to Sudan, the Democratic Republic of Congo and Rwanda, which are still recovering from civil conflict, and so lack domestic capacity to produce these goods (Table 3). Emerging partners in Asia and the Middle East accounted for 13% of Uganda's export earnings in 2009. An emerging concern is the danger of losing the new regional export market as these countries stabilise and rebuild productive capacity.

**Table 3: Uganda's exports and destination (% of Total)**

	2002	2003	2004	2005	2006	2007	2008	2009	2010
HS 09: Coffee, tea, mate and spices									
Developed countries	69.87	63.88	63.83	65.98	59.81	68.32	73.32	63.44	59.10
Switzerland	30.83	29.12	27.04	20.47	16.13	23.54	30.84	20.92	12.72
EU27	30.25	26.52	25.85	36.36	36.35	40.55	38.91	36.84	42.77
India	0.00	0.00	0.04	0.01	0.29	0.71	2.28	2.59	3.13
Kenya	24.33	25.58	22.24	16.58	21.31	15.22	10.87	17.47	19.77
Sudan	3.58	7.93	11.32	13.58	14.39	13.15	11.64	12.51	14.31
Singapore	4.97	4.04	8.49	8.81	6.35	2.01	2.54	2.51	1.19
United States	3.57	3.94	2.16	2.30	2.37	2.28	1.39	4.17	3.39
HS 03: Fish, crustaceans, aquatic invertebrates n.e.s.									
EU27	63.4	54.18	72.30	75.99	72.00	73.28	75.89	71.50	66.44
Israel	2.34	5.84	0.85	1.69	6.90	6.31	4.40	4.76	3.77
UAE	3.88	9.53	5.92	5.04	4.87	5.51	3.97	2.68	2.04
Hong Kong	0.98	2.43	1.61	2.30	2.26	3.55	5.19	11.65	12.16
Egypt, Arab Rep.	2.19	1.58	1.53	2.26	2.93	2.06	0.81	0.78	0.41
Japan	11.6	4.54	2.38	0.48	1.54	1.89	2.44	0.66	0.87
China	0.01	0.35	0.28	0.00	0.53	0.87	1.59	0.64	1.19
Developed countries	91.4	94.90	94.64	92.75	94.15	94.82	94.86	93.63	87.04
Australia	4.83	10.53	3.10	2.51	2.17	1.57	0.98	0.34	0.54
HS 85: Electrical, electronic equip									
EU27	50.67	55.13	16.79	39.28	5.86	3.20	4.85	15.33	
UAE	0.49	0.38	0.11	0.16	88.27	75.77	13.55	8.46	
Sudan	0.00	0.44	0.14	0.87	1.59	4.25	11.48	23.94	
Rwanda	1.01	3.40	0.90	2.33	0.31	1.48	44.91	14.37	
Kenya	2.39	5.71	18.99	1.87	0.84	4.20	2.90	13.08	
DCs	82.86	62.56	36.65	75.45	94.50	83.15	24.70	32.84	

HS 71: Pearls, precious stones, metals, coins, etc								
UAE	1.00	9.74	33.82	81.17	99.49	99.98	99.44	1.54	14.97
DCs	39.24	44.92	96.91	99.98	99.96	99.99	99.86	17.82	84.62
HS 24: Tobacco and Manufactured tobacco substitutes								
DCs	70.5	56.70	62.61	46.92	46.60	45.20	8.13	28.07	27.67
EU27	65.5	39.48	35.97	38.97	37.24	42.87	8.23	28.86	31.09
Kenya	9.05	20.99	10.18	6.21	10.69	35.41	65.18	29.86	26.01
Korea, Rep.	0	1.54	2.03	1.43	2.10	1.23	1.19	1.45	3.76
Russia	2.94	4.55	3.55	1.50	2.85	2.65	2.56	3.06	4.24
Sudan	0	0.00	0.06	0.26	0.28	0.65	3.83	6.86	7.74
Singapore	0	0.25	0.00	1.18	1.71	2.29	0.23	0.25	0.93
South Africa	5.56	8.27	10.20	18.82	24.40	8.66	12.09	6.76	4.49
Congo, Dem. Rep.	0.47	0.32	0.20	2.09	1.15	0.03	0.19	0.00	0.44
Source: Author's computation from the WITS data set								

In general, the export pattern suggests that Uganda has not been able to take advantage of the preferential regional market access (both in the EAC and COMESA trading blocs). We conjecture that the limited access to the EAC market is because countries within this bloc (and other COMESA member countries) produce essentially similar products – mainly agricultural products. Further research is thus required to assess the potential for regional trade expansion especially through intra-industry trade.

It is also worth noting that domestic supply has not grown in tandem with export market opportunities. Increased market opportunities for manufactured exports for example, have not been met by a corresponding increase in production (Figure 5).

Figure 5: Manufacturing Value Added and Manufactured Exports (%)
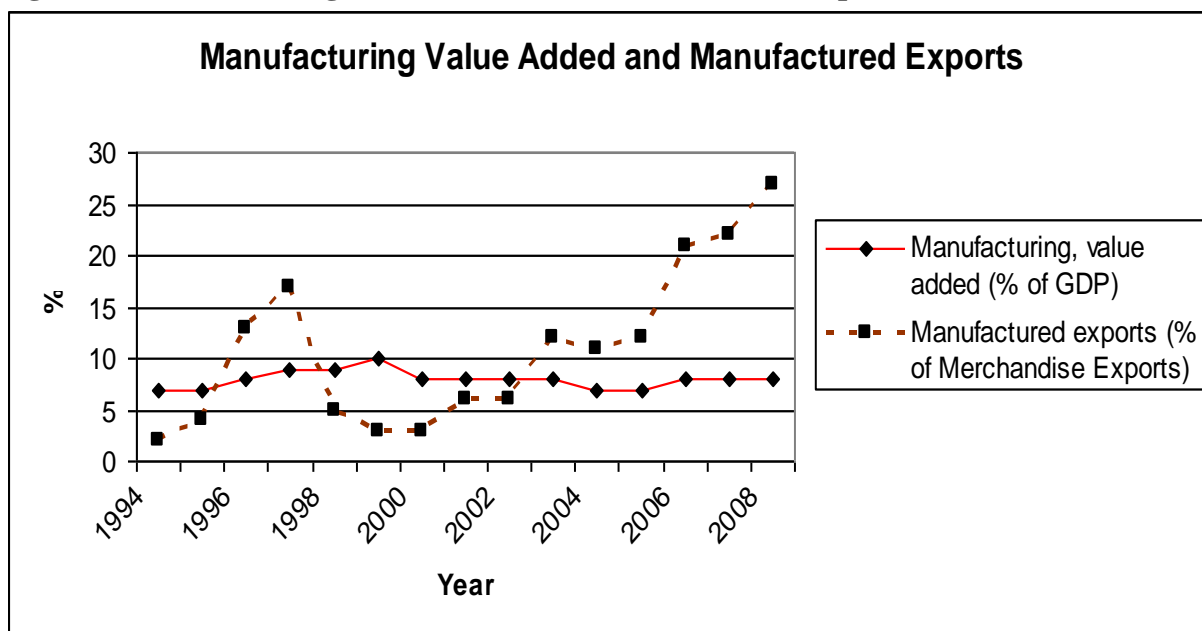
It is not surprising that increased market access has instead been met by reduced supply on the domestic market. The recent price increases for some commodities in the domestic market have in fact been partly attributed to the preference to supply the regional market induced by emerging demand for Ugandan goods rather than in response to policy. We conjecture that this is attributable to the underlying bottlenecks (such as infrastructure constraints) and other incentive problems that continue to hold back the country's supply potential.

There has been some diversification of exports away from coffee to other items such as flowers, fish, and other agricultural exports. This is reflected in the improvement in the export diversification index from 0.8230 in 1996 to 0.6224 in 2010.

Trade liberalization (and exogenous trade expansion) can also induce production shifts across the aggregate sectors of production (Dodzin and Vamvakidis, 2004) which should in turn affect labour market outcomes. Trade, for example, is supposed to enhance technological progress in developing countries through the spillover effects (Grossman and Helpman, 1989; Coe and Helpman, 1995) giving rise to high growth rates in the industrial sector (Dodzin and Vamvakidis, 2004). The trade policy reform period has coincided with strong macroeconomic performance and poverty reduction. The average GDP growth for the period 1993/94-2010/11 has been about 7 percent with a peak of 10 percent in 1994. The average growth for the 2001/02 – 2009/10 has been about 8 percent (Table 4).

Table 4: GDP composition and trends

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
Services	48.3	48.6	49.1	49.0	47.2	47.0	46.9	46.4	45.4
Industry	22.0	22.6	22.8	24.0	22.8	25.1	25.8	24.7	24.6
Agriculture	23.1	22.1	21.1	20.2	24.1	22.3	21.4	23.1	23.9
Total GDP	8.5	6.5	6.8	6.3	10.8	8.4	8.7	7.2	5.8
GDP per capita	5.1	3.1	3.4	3.0	7.3	5.0	5.3	3.8	2.4
Services	11.0	7.4	7.9	6.2	12.2	8.0	9.7	8.8	5.8
Industry	7.4	9.5	8	11.6	14.7	9.6	8.8	5.8	8.9
Agriculture	7.1	2.1	1.6	2.0	0.5	0.1	1.3	2.5	2.1

Source: Uganda Bureau of Statistics

The opening up of the economy to foreign capital has generally resulted in increased foreign direct investment. Foreign direct investment as a share of GDP has averaged about 4 percent between 1998 and 2009. Statistics from the Uganda Investment Authority indicate that a sizable amount has ended up in the services sector (mainly commercial banking, telecommunications and trade in final consumer goods). In addition, the bulk of this FDI is concentrated in three sectors: finance, insurance and business services; manufacturing; and wholesale, retail, catering, accommodation and tourism. The manufacturing and mining sectors also continue to attract considerable FDI inflows. In fact most of the overall economic growth is driven by the telecommunications, financial services and construction sectors. Exports have also made an important contribution to growth especially in the last six years (Ssewanyana, Matovu, and Twimukye, 2010),

though most of the exports are of a primary nature – mainly unprocessed coffee, cotton, fish and fish products, etc.

The trade liberalization period has also coincided with major changes in the drivers of Uganda's economy. Whereas the share of agriculture in GDP has been on the decline over the last one and a half decades, the sector remains an important source of employment and foreign exchange earnings. About 66 percent of the population is directly employed by agriculture (UBOS, 2010). This pattern appears to be counter intuitive to what would be expected during economic transformation where the share of labour force in agriculture should be systematically reducing. Hisali et. al, 2009 attribute this pattern to supply push factors. In particular, they suggest that the agricultural sector is increasingly becoming more subsistence and relying more on family and other forms of unpaid labour. The proportion of women who derive their livelihood from agriculture is 17.3 percentage points higher than that of their male counterparts (Table 5).

Table 5: Industry of employment by Year

	1992			2002			2006		
ISIC revIII	Male	Female	Total	Male	Female	Total	Male	Female	Total
Agriculture & Hunting	79.8	90.4	85.4	66.0	80.4	73.4	56.7	74.0	65.5
Sales	5.8	2.6	4.1	9.4	7.0	8.1	15.1	9.9	12.5
Manufacturing	3.3	1.8	2.5	5.6	2.8	4.2	7.8	5.2	6.5
Hotels and Restaurant	0.3	0.5	0.4	0.7	2.5	1.6	1.6	4.0	2.9
Education	1.9	1.0	1.4	3.3	2.0	2.6	3.6	2.0	2.8
Other sectors	8.8	3.7	6.1	15.1	5.4	10.1	15.1	4.9	9.9

Source: UNHS 1992/93, 2002/03 and 2005/06

Further insights into national employment trends are provided by data from the nationally representative Uganda National Household Surveys (UNHS)[3] collected by the Uganda Bureau of Statistics (UBOS). The composite as well as sectoral changes in employment are presented in Table 6.

Table 6: Employment growth rates

	1992-1996	1996-2002	2002-2006	1992-2006
Composite	6.13	10.5	1.03	18
Agriculture	4.5	0.4	8.6	14
Manufacturing	8.5	14.9	-5.6	18
Services	5.4	16.2	0.1	22

Source: Uganda Bureau of Statistics

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[3] These surveys are quite comprehensive and elaborate as opposed to the monitoring surveys.

The gains in the labour market from trade expansion and policy reform for the case of Uganda are partly reflected in the poverty dynamics. Headcount poverty decreased from 44% in 1997 to 35% in 2000 but rose again slightly to 38% in 2003 before declining to 31% in 2006. The poverty rate is currently estimated at about 24%. There is evidence that the temporal and spatial trends in poverty rates bear some relationship with export performance in general and international prices, in particular (Okidi et. al., 2006). For instance, the reversal in the poverty trends between1999/00 and 2002/3 coincided with a reduction in the international market price of Uganda's main export commodity–coffee. This tends to suggest that the main transmission mechanism between exports and poverty outcomes is through the prices that producers receive. In terms of production of the major export crops, there are marked geographical differences, which are in turn mirrored in the geographical distribution of poverty levels. For instance, there is minimal involvement of households in Northern Uganda in the cultivation of coffee. The only cash crop for which households in Northern Uganda appear to actively participate in compared to the rest of the country is cotton, which however accounts for only 3% of the cultivated area in the region.

The correlation analysis results (Figures 6 and 7) also depict a positive association between exports and employment. The strength of the correlation between exports and employment for total exports is only slightly higher for exports to the regional market.

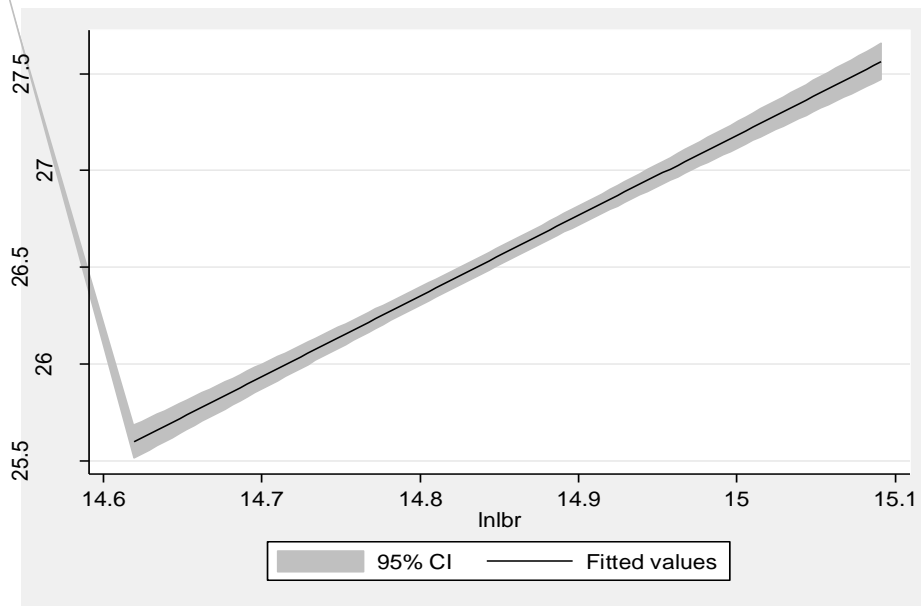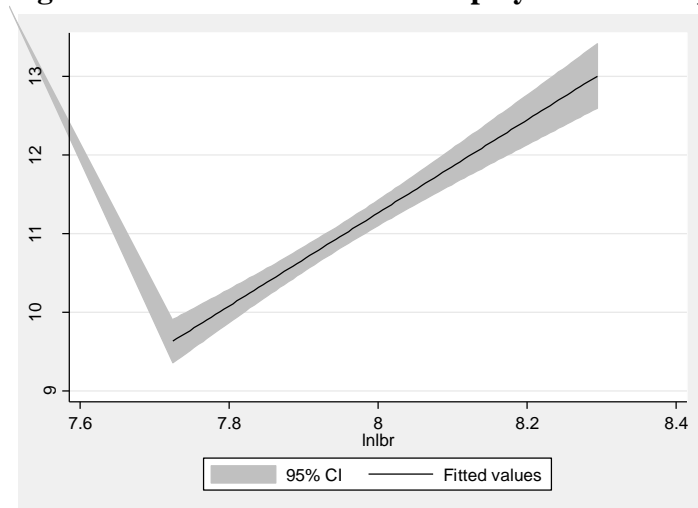**Figure 6: Correlation between employment and total exports**

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Figure 7: Correlation between employment and exports to the region

The gender dimension

The standard trade-labour market nexus consider labour to be a homogenous group such that the effects of both exogenous trade expansion or policy induced trade changes on the labour market is neutral. Trade policies and expansion can, however, have gender differentiated impacts. The most prominent channels through which gender discrimination manifests itself in labour markets of developing countries are the occupational segregation hypothesis and the price and income effects. Occupational segregation originates from cultural norms and other forms of sex based discrimination which together result in unequal access to employment opportunities and productive assets. This in turn biases employment opportunities of women to low productivity activities such as food crop production and unpaid work in agriculture; industrial outworkers and informal wage workers in the informal sector, and basic activities in export processing zones in the case of manufacturing. The price and income effects posit that trade liberalisation result in lower prices for a range of consumer goods which improves the welfare of both men and women[4]. It is also possible though for cheap imports to displace local production (and employment opportunities). In general, the comparative advantage in labour intensive activities in developing countries may not necessarily give rise to equal benefits for both men and women in the wake of trade expansion.

In the case of Uganda, nearly half of the women in rural areas are engaged in unpaid family work compared to only 18 percent of men (Table 7). Such large gaps in earning opportunities have implications not only for household welfare, but also for overall national output.

Table 7: Main activity status of the employed

	Female			Male			Ratio of females to males		
	All	Rural	Urban	All	Rural	Urban	All	Rural	Urban

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[4] This, of course, depends on the import demand elasticity and other macroeconomic factors such as exchange rate movements.

Self employed	43.7	43.8	43.2	58.1	60.8	42.7	75.2	72.0	101.2
Unpaid family worker	45.9	49.4	22.9	17.6	19.4	7.7	260.8	254.6	297.4
Government employee	2.9	2.3	6.7	5.2	4.7	7.8	55.8	48.9	85.9
Private employee	7.4	4.5	27.1	19.1	15.1	41.8	38.7	29.8	64.8
Total	100	100	100	100	100	100			

Source: Gender and Productivity Survey Report, 2009

Women also account for the largest share of the agricultural labour force – about 58 percent of the estimated 7.3 million agricultural workers (Table 8).

Table 8: Structure of employment in Uganda

	Share of total employment	Gender intensity of production %		
		Female	Male	Row total
Self employed	50.7	44.4	55.6	100
Unpaid family worker	32.2	73.4	36.5	100
Government employee	4	37.1	62.9	100
Private employee	13.1	29.1	70.9	100
Total	100	51.5	48.5	100
Industry of activity				
Agriculture	71.5	57.9	42.1	100
Fishing	1.5	5.7	94.3	100
Manufacturing/mining/quarrying	5.1	31.8	68.2	100
Construction	1.9	0.9	99.1	100
Retailing	7.1	44.2	55.8	100
Restaurants and hotels	1.5	87.3	12.7	100
Transport and communication	2.4	8.3	91.7	100
Other commercial activities*	0.7	35.3	64.7	100
Public administration	0.9	9.9	90	100
Social services (Education, Health)	6.9	44.7	55.2	100
Other sectors**	0.5	58.3	41.7	100
	100			

* other commercial services include real estate services and financial intermediation
** Other sectors include house help.
Source: Gender Productivity Survey, 2009

## 3.	Sectoral analysis of trade and employment

This section relates sectoral patterns in employment to trade expansion and liberalization. Two sectors – coffee and the informal sector – are of particular interest for this analysis in Uganda. Coffee continues to be the most dominant cash crop and foreign exchange earner. It is labour-intensive in technology and its production hardly requires any formal education skills. 95 percent of Uganda's coffee is produced on small holder farms of about 0.3 hectares each. The international price of coffee has been an important driver of the temporal poverty dynamics in Uganda over the last two decades. The coffee sub

sector thus provides an interesting case study of the link between the sectoral patterns in trade and employment (and poverty).

The informal sector continues to be an important source of employment in Uganda. The latest statistics from the Uganda Bureau of Statistic indicate that the informal sector employs about 60 percent of the non-agricultural labour force (UBOS 2010). Informal sector employees are vulnerable not only because their earnings are usually lower than those that obtain in formal occupations but also because of lower job security and an abject lack of social protection. Understanding the role of trade in explaining the patterns is an important undertaking for policy purposes.

3.1   The Coffee sub sector

The gendered labour market effects of trade liberalization are determined by analyzing the movement (and changes in earnings) of male and female workers between different sectors in response to new opportunities and threats occasioned by liberalization. Liberalization of farm gate prices of primary agricultural exports, for example, usually improves the incentive structure to produce for the market. Gender discrimination and biases such as limited access to productive assets coupled with maternal responsibilities, however, interact to result in only minimal benefits for women. Cash crops are also usually male dominated. In any case, women typically end up working for their male counterparts usually on an unpaid basis.

The coffee sub-sector dominates agriculture with respect to employment generation and as a source of income. Estimates from the Uganda National Household Survey of 2005/06 indicate that about 10 percent of all households are engaged directly in the production of coffee. Following domestic price decontrol farm gate prices are now closely linked to the (International Coffee Organization (ICO) indicative prices and the amount of coffee produced is a function of price developments on the international market. The farm gate share of the ICO indicator price continued to trend upward between 1992 and 2010 (although there was a significant fall during the coffee crisis in 2002).

Figure 8 shows that coffee production peaked at 270,000 tonnes in 1996; however by 2002, the total coffee production had declined by about 30% to 200,000 tonnes.

Figure 8: Annual Production of Coffee, 1990-2006 (tonnes)
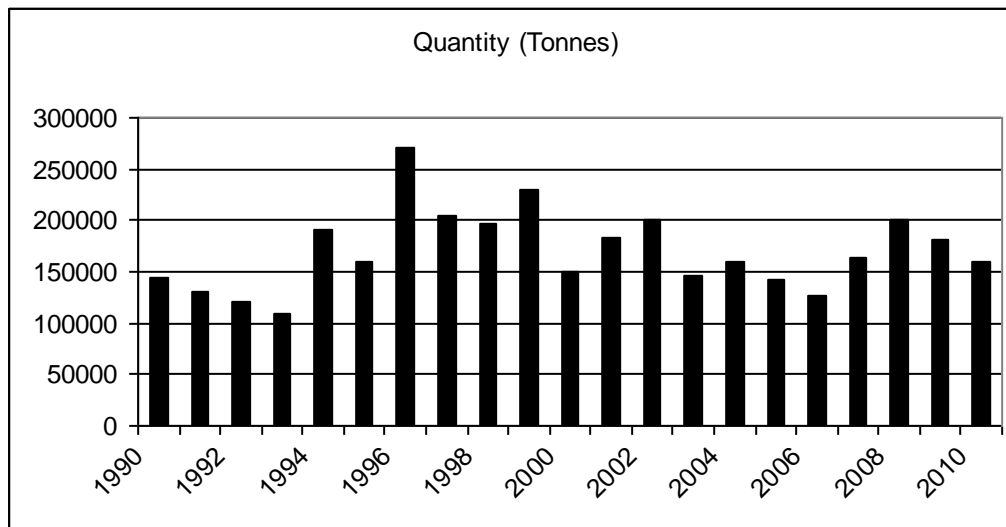
Source: Bank of Uganda, Quarterly Reports (various issues)

Given that coffee is the most widely cultivated cash crop in Uganda, the decline in overall crop production has implications for both the overall macroeconomic as well as incomes at the micro level. In tandem with decline in coffee production, the contribution of the crop to export earning has also declined. Although the value of Uganda's total merchandise export increased from US$ 177 million in 1991 to US$ 806 million in 2005, the share of agricultural products in total exports declined—from 92% to 63% during the same period. Most important, the share of coffee earnings in total export receipts declined from about 60 percent in 1999 to 17.5 percent in 2010 (Figure 9).
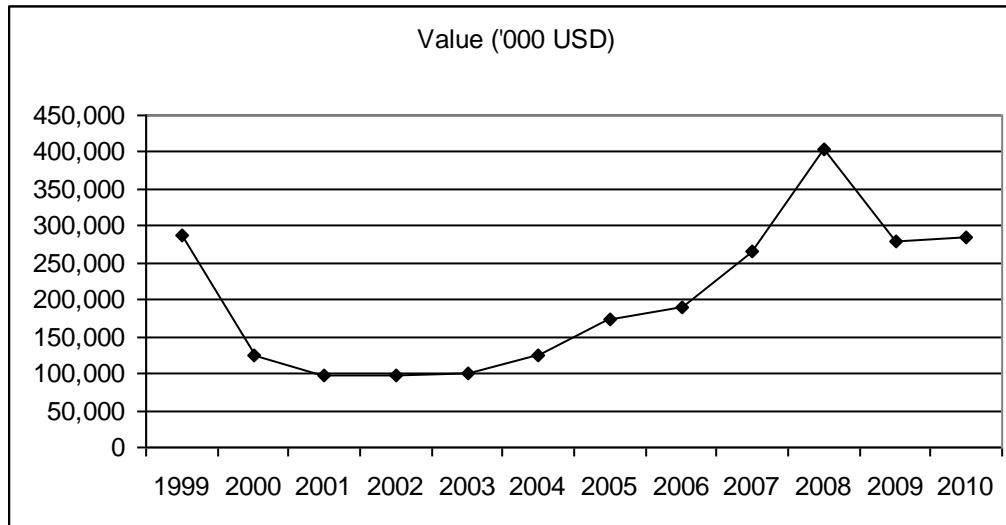
Figure 9: Coffee exports (percentage of total exports)
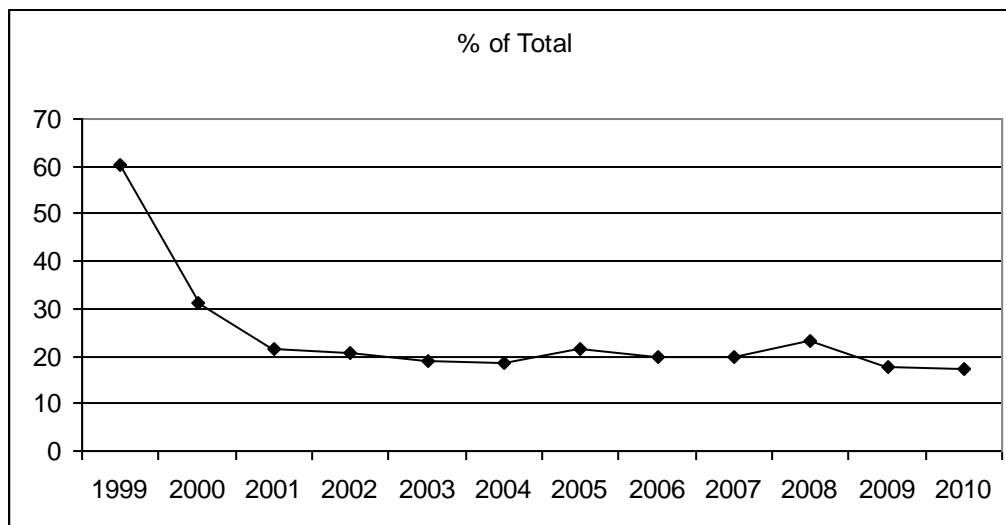
Source: Uganda Bureau of Statistics

The fall in international coffee prices in the late 1990s resulted in a decline in the value of coffee exports albeit an increase in the volume of exports (Figure 10).

Figure 10: Value of coffee exports ('000 US$)

Value ('000 USD)

Year	Value
1999	~290,000
2000	~125,000
2001	~97,000
2002	~97,000
2003	~100,000
2004	~125,000
2005	~175,000
2006	~190,000
2007	~265,000
2008	~405,000
2009	~278,000
2010	~283,000

Absence of gender-differentiated data in Uganda's coffee production makes it hard to analyze the effects of trade liberalization from a gender perspective. There is some anecdotal evidence (see Baden, 1993; Elson and Evers; 1996; World Bank, 2005) which suggests that coffee trade liberalization has generally been less favourable to women. Women undertake the majority of maintenance and harvesting work while marketing and control over coffee income lie in male hands (Bantebya and Keniston, 2006; Elson and Evers, 1996; EPRC, 2007). As a result of this, women tend to have little control over the harvest proceeds. The 2005 Uganda Demographic Health Survey shows that although 92% of the currently married women are employed, only 52% receive incomes in the form of cash payment. Furthermore, a substantial proportion (30%) is not paid at all. Worse still, for those women who receive cash payment, some do not have absolute control over their cash incomes.

Table 9 shows the extent of married women's control over their income; only 54% of married women solely control how earnings are used. However, this varies greatly according to sub regions and the rural-urban divide. Specifically, women in Eastern, North, and IDP populations as well as those in rural areas are least likely to control their own incomes. Thus, to the extent that women do not control their own earning, this is likely to affect women's overall agricultural productivity. Indeed, studies from other parts of the continent show that women are less willing to engage in production in instances where men control their earning from agriculture or wages from paid employment (Udry, 1996; Duflo and Udry, 2004).

Table 9: Uganda, Control over Women's earnings, 2005(%)

	Person who decides how a woman's cash earnings are used				
	Mainly Wife	Mainly Husband	Husband and Wife Jointly	Other/Missing	Total
Residence					
Urban	68	4.2	27	0.9	100
Rural	52	15	32.7	0.3	100
Regions					
Central 1	71	8.1	20.3	0.5	100
Central 2	74.5	9.1	16.4	0	100
Kampala	79.2	1.9	18.2	0.7	100
East Central	56.9	20.3	22.9	0	100
Eastern	24.4	18.1	57.6	0	100
North	36.7	16.9	45.6	0.1	100
West Nile	72.4	4.9	22.4	0.3	100
Western	44.5	16.9	38.3	0.3	100
South weste	39.4	15.8	43.2	1.6	100
North sub regions					
IDP	37.6	14.9	47	0.5	100
Karamoja	50.4	9.7	39.9	0	100
Total	54.6	13.3	37.7	0.5	100

Source: UBoS and Macro International, 2007 Table 15.2.1

Notes: The following districts are contained in the sub regions

Central1 : Masaka, Lyatonde, Ssembablule, Rakai, Wakiso, and Kalangala

Central 2: Kiboga, Mubende, Mityana, Luwero, Nakaseke, Nakasongola, Kayunga, and Mukono

Southwestern: Kabale, Kisoro, Kayunga, Ntungamo, Mbale, Kasese, Rukungiri, Kihura, and Ibanda

East Central: Kamuli, Jinja, Mayuge, Bugiri, Busia, Namutumba, Kaliro

Eastern: Amuria, Katakwi, Kaberamaido, Soroti, Palisa, Budaka, Mbale, Tororo, Sironko, Bududa, Manafa, Kacpchrowa, and Bukedea

Western: Masindi, Bulisa, Hoima, Kibaale, Kyengyojo, Kamwenge, Kabarole, Bundibugyo, and Kasese

Golan and Lay (2007) on their part suggest that in as much as intra-household struggles over resources for coffee production as well as agricultural gender roles persist, coffee income is increasingly being distributed between men and women. Thus, although agriculture still accounts for the lion's share of employment in Uganda and in spite of the fact that women are disproportionately employed in the sector, women's control of earnings is still limited.

3.2   Trade liberalization and informal employment

Trade liberalization and informal employment are linked in many ways. Increased access to capital displaces workers especially the relatively less skilled, reducing employment in formal activities and pushing employment to the informal sector. Increased competition may also induce firms to engage some workers through informal arrangements that allow them to cut their wage bills. Subsidiaries of global chains in many developing countries

are increasingly turning to informal marketing arrangements for their products which are disadvantageous to existing small-scale producers and petty traders. Trade liberalization may also contribute to the expansion of the informal sector as workers in previously protected sectors lose their jobs. In addition, domestic industries may lose markets as a result of preference erosion. It is also, however, possible for the process of relocating production (outsourcing) from high labour cost to low cost countries to increase formal employment opportunities or earnings for the self employed.

The informal enterprises in Uganda are wide ranging but the most common ones entail street vending, small service providers or contract workers in agriculture and industry. Trade is the most important activity with about 46 percent of the informal sector enterprises, followed by manufacturing (31 percent) and hotels and restaurants with 6.6 percent (UBOS, 2006). The dominant activities in the trade sub-sector include retail shops, street vending, roadside sellers, phone kiosks etc. The main activities in the manufacturing sub-sector include, food processing – e.g. maize milling, baking bread; metal fabrication – e.g. cooling utensils, doors, windows; wood products – e.g. furniture; handcrafts – e.g. table cloths, brooms, baskets, mats; and construction – e.g. small houses, and kiosks. The services sector mainly includes hair dressing, car washing, car repair, taxi drivers and motorcycle taxi hire (boda boda). In terms of gender, the hotel and restaurant industry has the biggest number of females employed. Transport, storage and communication, construction and fishing industries employed the least number of females, with less than 10% each.

The latest statistics from the Uganda Bureau of Statistics suggest that of the 3.8 million persons who work outside agriculture, 2.2 million (58%) are in the informal sector. The proportion is higher for females (62%) than males (55%). The proportion is also higher in the rural areas (Table 10).

Table 10: Employment in the Informal Sector as a percentage of Non-Agricultural Employment

Background characteristics	Employment in the informal sector	Total employment outside agriculture	Percent
Sex			
Male	1,172,538	2,131,454	55.0
Female	1,022,126	1,649,851	62.0
Residence			
Urban	906,989	1,682,195	53.9
Rural	1,287,675	2,099,110	61.3
Regions			
Kampala	339,361	650,247	52.2
Central	737,116	1,222,662	60.3
Eastern	373,020	638,810	58.4
Northern	287,961	505,996	56.9
Western	457,206	763,589	59.9
Total (000's)	**2,194,664**	**3,781,305**	**58.0**

Source: Uganda Bureau of Statistics, UNHS report 2009/10

The rapid expansion of the sector is explained by efforts by households to increase and diversify their income in the face of dwindling returns from agricultural activities. Other commonly cited reasons for the expansion of informal sector employment (World Bank, 2010) include the effects of structural adjustment policy, which led to the downsizing of public service, rapid population growth and the HIV/AIDs scourge, which has left many orphaned children. The informal sector can be explained by the large subsistence activity in rural agriculture as well as inability to compete effectively for the few salaried jobs especially in urban areas – owing to lack of relevant skills and experience (Ministry of Finance, Planning and Economic Development, 2009) and rural/urban migration in search of paid employment. None of the reasons for informality in Uganda are directly related to trade policy reform.

There thus seems to be very limited association of the informal sector to trade and import competition. The limited association of trade and informality is symptomatic of the low manufacturing base and the nature of imports.

4.   Methodology and empirical results

The econometric methodology employed captures both the underlying relationship between employment and exports. The long run equilibrium relationship was obtained using the Johansen multivariate approach. The Johansen procedure estimates the stochastic process of the form:

$$\Delta y_t = \mu + \Pi y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i^* \Delta y_{t-i} + \varepsilon_t$$

where y_t is an $m \times 1$ vector of variables, $\Pi y_t = \alpha\beta' y_{t-1}$ represent the stationary cointegrating relations. The β parameters are the cointegrating parameters that form linear stationary relations with the non-stationary data series in y_t. α contains the short run adjusting parameters towards the long run steady state relationship. The $\Gamma_i^*'s$ are $m \times m$ coefficient matrices and provide information about the short run dynamics. μ is the vector of deterministic terms. The $m \times 1$ vector ε_t is assumed to have mean zero $(E\varepsilon_t = 0)$, with no autocorrelation $(E\varepsilon_t \varepsilon'_{t-s} = 0 \, \forall \, s \neq 0)$ but can be correlated across equations $(E\varepsilon_t \varepsilon'_t = \Omega)$. Ω may have non zero off diagonal elements. These assumptions imply that ε_t is $I(0)$. It is also assumed that each member of y_t is either $I(1)$ or $I(0)$.

The rank of Π and choice of deterministic specification was done jointly and this was followed by estimation of the unrestricted cointegrating relation to determine the long run equilibrium relationship.

The specification that was utilized is of the form:

$$lbr_t = \alpha + \beta_1 y_{t-1} + \beta_2 cpi_t + \beta_3 GFCF + \beta_4 x_t + \varepsilon_t.$$

The variables in lower case are growth rates. β is the vector of coefficients on parameters that are hypothesized to influence labor demand, lbr. They represent how changes in explanatory variables lead to changes in the dependent variable.

The model specification is based on the conventional (H-O) export expansion-employment nexus in a developing country setting with a comparative advantage in labour intensive exports. Expansion of the export market should, *ceteris paribus*, be followed by an increase in output. Since the demand for labour is derived demand, this increases employment subject of course to the cost of labour. In line with standard practice, we also control for non-trade factors that have a bearing on the level of employment such as value added and private investment.

The study employed quarterly time series data on employment growth (lbr), GDP growth (y_t), gross fixed capital formation (GFCF as a percentage of GDP), exports growth and inflation (inf). Consistent time series data on employment are not readily available in Uganda. This study used the total labour force as a proxy for employment. The official unemployment rate in Uganda is around 2 percent which makes the total labour force a good proxy for total employment. The data covered the period 1994 to 2009. The data were obtained from the Uganda Bureau of Statistics.

The long run employment relationship
The estimated equilibrium labour demand vector is:
$$\ln lbr_t = 0.214 GFCF_t + 0.006 \exp ort_t - 0.064 infl_t + 0.069 + \hat{z}_t$$
All the coefficients are significantly different than zero (Appendix Table A4). The results show that the equilibrium labour demand relationship is positively influenced by private investment and growth of exports but bears a negative relationship with inflation. In particular, a one percent increase in investment growth increases the demand for labour by 0.214 of a percent whereas an increase in demand for exports increases demand for labour by 0.006. A one percent increase in inflation (a proxy for the cost of labour) reduces the amount of labour that is demanded by 0.064 of one percent.

6.   **Summary and conclusions**

The largely reciprocal nature of trade policy reform of the last one or so decades has been in part motivated by the need to provide access to a larger market for exports in order to expand job creation and growth in general. This paper sought to shed light on the relationship between trade policy reform and export promotion on the one hand and labour market outcomes (employment) in Uganda.

The descriptive analysis suggests that whereas exports have generally increased, this can not be attributed to trade policy reform but rather to demand patterns in the export markets. The increase in exports has been largely demand pulled. The increase in exports has also been reflected in increased labour demand and gains in poverty reduction. Uganda's trade reforms have also been designed in such a way that it provides some degree of protection to domestic sectors that have a high job creation potential. From a gender perspective, women continue to be more than proportionately represented in low productivity activities such as unpaid family labour. There is also no evidence to link trade liberalization and the informal sector.

The equilibrium labour demand relationship suggests that investment and exports positively influence the demand for labour but labour demand has a negative relationship with inflation.

The econometric results confirm the positive relationship between demand for labour and exports. The contemporaneous results capture the short term increase in the demand for labour, gross fixed investment and exports.

Whereas the net effect of access to export markets on the labour market has been positive, there is need to note that most of the recent trends in exports are not directly attributable to trade policy reform and regional integration. The nature of exports also suggests that there is a real danger of losing the current markets as the key export destination countries stabilize and improve their productive capacity. The limited exports to the regional market (in the EAC and COMESA trading blocks) suggest that the intra-industry trade argument weakens in the case of primary agricultural exports. There is thus need for policy to find avenues of diversifying the export base away from primary agricultural products to more competitive export products.

With regard to gender, the concentration of women in unpaid activities implies that women have realized fewer benefits from trade liberalization than their male counterparts. The long term focus of policy should aim to relax constraints such as under representation in decision making within the households. Representation in decision making depends largely on bargaining power of women in the household. Provision of education and other opportunities will thus change the relative bargaining power of men and women. Commitment devices to encourage women to save proceeds from activities they are engaged in will increase their incomes and change the status quo in the short-term. Ongoing efforts to amend laws and change some of the norms that work to the disadvantage of women should also be helpful.

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Appendix Tables

Table A1: Tariff structure by sector in Uganda (1994 and 2009)

Sector	Sector Description	Uganda (2009)	Uganda (1994)
1	Live animals	19.32	6.67
2	Meat and edible meat offal	25	30
3	Fish & crustacean, mollusc & other aquatic invert	25	30
4	Dairy prod; birds' eggs; natural honey; edible pr	35.37	21.85
5	Products of animal origin, nes or included.	20.39	15.79
6	Live tree & other plant; bulb, root; cut flowers	14.06	17.69
7	Edible vegetables and certain roots and tubers.	25	30
8	Edible fruit and nuts; peel of citrus fruit or me	24.45	20
9	Coffee, tea, matï and spices.	25	25.15
10	Cereals	19.65	13.33
11	Prod.mill.indust; malt; starches; inulin; wheat g	22.32	28.86
12	Oil seed, oleagi fruits; miscell grain, seed, fru	6.67	19.33
13	Lac; gums, resins & other vegetable saps & extrac	0	21.67
14	Vegetable plaiting materials; vegetable products	10	28.18
15	Animal/veg fats & oils & their cleavage products;	13.64	22.83
16	Prep of meat, fish or crustaceans, molluscs etc	25	30
17	Sugars and sugar confectionery.	17.86	22
18	Cocoa and cocoa preparations.	13.18	30
19	Prep.of cereal, flour, starch/milk; pastrycooks'	22.89	25.56
20	Prep of vegetable, fruit, nuts or other parts of	25	30
21	Miscellaneous edible preparations.	22.5	26
22	Beverages, spirits and vinegar.	24.32	29.09
23	Residues & waste from the food indust; prepr ani	10	10
24	Tobacco and manufactured tobacco substitutes	27.22	50
25	Salt; sulphur; earth & ston; plastering mat; lime	6.88	14.3
26	Ores, slag and ash.	0	10
27	Mineral fuels, oils & product of their distillati	7.4	9.48
28	Inorgn chem; compds of prec mtl, radioact element	0.48	10
29	Organic chemicals.	0	9.8
30	Pharmaceutical products.	0.81	0
31	Fertilisers.	0	0
32	Tanning/dyeing extract; tannins & derivs; pigm et	6.93	15.53
33	Essential oils & resinoids; perf, cosmetic/toilet	16.72	28.54
34	Soap, organic surface-active agents, washing prep	15.87	22.57
35	Albuminoidal subs; modified starches; glues; enzy	12.67	11.43
36	Explosives; pyrotechnic prod; matches; pyrop allo	22.5	21.11
37	Photographic or cinematographic goods.	9.39	23.68
38	Miscellaneous chemical products.	4.7	10.17
39	Plastics and articles thereof.	11.01	12.26
40	Rubber and articles thereof.	7.82	13.38
41	Raw hides and skins (other than furskins) and lea	10	30
42	Articles of leather; saddlery/harness; travel goo	25	25.83
43	Furskins and artificial fur; manufactures thereof	9.58	19.09
44	Wood and articles of wood; wood charcoal.	16.2	27.54
45	Cork and articles of cork.	5.71	14.44
46	Manufactures of straw, esparto/other plaiting mat	25	27.14

47	Pulp of wood/of other fibrous cellulosic mat; was	0	12.11
48	Paper & paperboard; art of paper pulp, paper/pape	19.74	15.05
49	Printed books, newspapers, pictures & other produ	7.02	8.42
50	Silk.	11.67	13
51	Wool, fine/coarse animal hair, horsehair yarn & f	9.61	13.06
52	Cotton	19.13	21.34
53	Other vegetable textile fibres; paper yarn & wove	10.65	12.12
54	Man-made filaments.	17.71	14.77
55	Man-made staple fibres.	16.68	15.86
56	Wadding, felt & nonwoven; yarns; twine, cordage,	17.18	25
57	Carpets and other textile floor coverings.	25	30
58	Special woven fab; tufted tex fab; lace; tapestri	25	20.24
59	Impregnated, coated, cover/laminated textile fabr	13.54	17.2
60	Knitted or crocheted fabrics.	25	30
61	Art of apparel & clothing access, knitted or croc	25	20
62	Art of apparel & clothing access, not knitted/cro	25.33	20
63	Other made up textile articles; sets; worn clothi	25.65	19.32
64	Footwear, gaiters and the like; parts of such art	22.69	30
65	Headgear and parts thereof.	17.22	30
66	Umbrellas, walking-sticks, seat-sticks, whips, et	20	30
67	Prepr feathers & down; arti flower; articles huma	25	30
68	Art of stone, plaster, cement, asbestos, mica/sim	23.05	21.08
69	Ceramic products.	17.41	21.29
70	Glass and glassware.	13.75	17.1
71	Natural/cultured pearls, prec stones & metals, co	23.43	21.61
72	Iron and steel.	6.38	11.96
73	Articles of iron or steel.	15.24	17.2
74	Copper and articles thereof.	12.79	12.07
75	Nickel and articles thereof.	9.71	10.59
76	Aluminium and articles thereof.	15	15.88
78	Lead and articles thereof.	3.75	12
79	Zinc and articles thereof.	3.33	12.73
80	Tin and articles thereof.	4	12.22
81	Other base metals; cermets; articles thereof.	0	10
82	Tool, implement, cutlery, spoon & fork, of base m	10.53	20.28
83	Miscellaneous articles of base metal.	16.67	20
84	Nuclear reactors, boilers, mchy & mech appliance;	2.99	11.52
85	Electrical mchy equip parts thereof; sound record	11.58	18.23
86	Railw/tramw locom, rolling-stock & parts thereof;	0	10
87	Vehicles o/t railw/tramw roll-stock, pts & access	9.87	16.17
88	Aircraft, spacecraft, and parts thereof.	0	10
89	Ships, boats and floating structures.	5.56	17.22
90	Optical, photo, cine, meas, checking, precision,	3.42	12.2
91	Clocks and watches and parts thereof.	25	29.29
92	Musical instruments; parts and access of such art	10	30
93	Arms and ammunition; parts and accessories thereo	25	9.41
94	Furniture; bedding, mattress, matt support, cushi	23.46	22.17
95	Toys, games & sports requisites; parts & access t	25	20.23
96	Miscellaneous manufactured articles.	21.98	27.04

Table A2: Exports by SITC sections (Millions US$)

	2008	2009	2010
Food and live animals	678,962.98	548,624.18	631,572.83
Beverages and tobacco	101,980.52	75,121.00	78,833.84
Crude materials, inedible, except fuels	122,633.39	110,685.29	104,359.68
Mineral fuels, lubricants and related materials	17,118.65	14,919.35	13,915.26
Animal and vegetable oils, fats and waxes	41,607.66	40,128.66	44,983.19
Chemicals and related products, n.e.s.	49,985.87	49,509.34	43,664.23
Manufactured goods classified chiefly by material	219,577.38	198,415.38	196,030.30
Machinery and transport equipment	22,634.70	13,870.45	14,434.92
Miscellaneous manufactured articles	78,629.38	30,395.64	23,419.44
Commodities and transactions not classified elsewhere in the SITC	12,192.18	3,306.06	461.221

Table A3: Uganda's main suppliers

Developed Countries	42.78	43.45	42.69	41.95	49.90	49.22	47.24	42.56	39.11
United Arab Emirates	5.78	5.86	4.91	6.95	12.74	12.09	11.42	9.83	8.40
Bahrain	0.00	0.01	0.05	1.17	3.36	1.77	1.04	0.45	0.36
China	4.11	5.12	6.35	5.60	5.42	7.89	8.10	8.95	8.91
EU27	18.55	18.83	19.03	19.51	19.19	20.68	19.45	17.77	15.62
Hong Kong	1.63	1.22	0.75	0.76	0.80	1.15	1.04	0.88	0.76
India	6.71	7.44	7.11	6.36	8.19	9.92	10.42	12.29	14.70
Japan	8.15	6.58	5.72	4.44	6.84	6.70	5.95	6.37	6.56
Kenya	29.21	26.03	24.79	28.31	15.71	13.58	11.32	11.86	10.99
Korea, Rep.	0.44	0.51	0.60	0.77	1.03	0.83	1.05	1.54	1.73
Malaysia	2.99	3.06	4.35	2.60	1.91	1.82	3.23	1.81	2.16
Russian Federation	0.05	0.23	0.04	0.26	1.18	1.31	0.80	0.85	1.06
Saudi Arabia	0.68	0.89	0.84	1.13	2.05	1.36	2.56	4.00	5.14
Singapore	0.58	0.83	0.75	0.50	1.46	1.73	2.09	2.12	1.93
Tanzania	0.70	0.79	0.69	1.44	1.12	0.84	1.23	0.96	1.21
United States	3.35	5.69	6.65	4.30	3.52	2.93	2.60	2.05	2.27
South Africa	7.81	7.21	7.09	5.17	6.12	5.95	6.76	5.79	5.38

Source: Author's calculation from World bank Trade data

Table A4: **Restricted Long run equilibrium relationship**
LR test for binding restrictions (rank=1):
Chi-square(1)   0.291057
Probability   0.589544

Vector Error Correction Estimates
Sample (adjusted): 1996Q1 2009Q4

Cointegrating Eq:	CointEq1
LBR	1.000000
GFCF	-0.213957
	(0.01315)
	[-16.2758]
EXPORTS	-0.005717
	(0.00164)
	[-3.48137]
INFQ	0.064172
	(0.01289)
	[4.97961]
C	-0.063665

Table A5: **Unrestricted Long run equilibrium relationship**

Vector Error Correction Estimates
Sample (adjusted): 1996Q1 2009Q4

Cointegrating Eq:	CointEq1
LBR	1.000000
Y_{t-1}	0.012712
	(0.01951)
	[0.65170]
GFCF	-0.217368
	(0.01376)
	[-15.7921]
EXPORTS	-0.006187
	(0.00176)
	[-3.52122]
INFQ	0.062293

<div align="center">

(0.01502)

[4.14635]

</div>

C	-0.069079

Graph A1: Uganda's Exports to the COMESA Region