Policy note
November 2016

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Agricultural transformation and urbanisation in Uganda

Structural transformation and the development process

Uganda's Vision 2040 envisions a transition to middle income country status with a largely non-agrarian workforce and urban-dwelling populace. However, the Ugandan economy is still heavily reliant on the agriculture sector, with 69% of households dependent on subsistence farming for their main source of income, and nearly 75% of all households residing in rural areas (UBOS, 2014). While the country's development goals conform to a long-held view of the development process (i.e. that economic development stems from the movement of workers from the less productive agriculture sector to 'modern' economic activities[1]), we argue that the food and agriculture sector can play a useful role for effecting a productive and inclusive transformation of the Ugandan economy.

Several empirical studies provide compelling evidence for the existence of large disparities in sectoral labour productivity, rural and urban living standards, and differences in living standards between more and less densely populated areas. Gollin, Lagakos and Waugh (2013) estimate that the value of output per worker in non-agrarian sectors is roughly twice that of output per worker in the agrarian sector of a typical country, and even higher in developing countries – even after adjusting for a range of potential problems with the raw data. Young (2013) studies urban and rural consumption patterns in a set of countries and finds a significant consumption gap, i.e. disparities in living standards. Differences in living standards within rural areas, between more and less densely populated areas is studied by Gollin, Kirchberger and Lagakos (2015). They find evidence of better average outcomes in more densely populated areas for measures of housing quality, health outcomes, public service provision, educational achievement, etc.

The process of transition is inevitable (though gradual) in the presence of such large differences across sectors

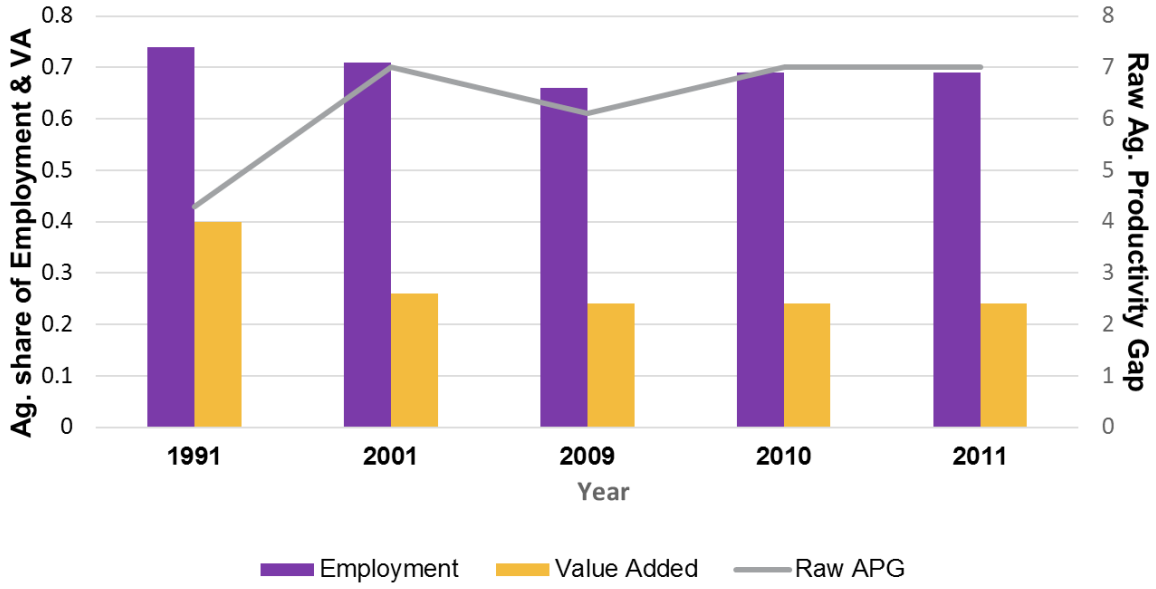
1. Gollin, Lagakos & Waugh (2013), "The Agricultural Productivity Gap", pg. 2.

and spaces, and is already taking place in Sub-Saharan Africa and Uganda as people move out of agriculture and rural areas in search of improved livelihoods.[2] A challenge to policy, however, is that not all transformations are equal or desirable, e.g. in the patterns of employment associated with ongoing urbanisation. This note explores the policy challenge of creating an inclusive process of economic growth that narrows sectoral and spatial disparities, fosters the transformation of rural livelihoods, and creates productive jobs in urban areas. The analysis focuses on linking urban and rural growth, and industrialisation with agricultural transformation in the context of Uganda.

Uganda's agricultural productivity gap

This section follows from the methodology employed in Gollin, Lagakos and Waugh (2013), and demonstrates that the relative productivity of labour (as measured by the value added per worker) in the agricultural sector is significantly lower than that of labour in the non-agricultural sectors in Uganda. The combination of these two features – high economic dependence on agriculture and low agricultural productivity – suggests that a reallocation of labour to more productive sectors could contribute to a significant increase in aggregate output.

Figure 1: Agriculture's share of Employment & Value Added (L), and 'Raw' Agriculture Productivity Gap (R)



The agricultural productivity gap (APG), or the relative productivity of the non-agriculture sector compared to the agriculture sector, is measured as the ratio of value added per worker in the non-agriculture sector (numerator) to the value added per worker in the agriculture sector (denominator). Thus if the APG>1, this implies that workers in the non-agricultural sector are more productive than workers in the agricultural sector. **Figure 1** demonstrates a trend for the 'raw' agricultural productivity gap measure in Uganda (the calculations are also reported in column 4 of **Table 1**.

2. The number of people living in Uganda's urban areas has grown at an average of 300,000 people per year between 2003 and 2015. At the current pace of urbanisation, the urban population is projected to increase from six million in 2013 to more than twenty million in 2040 (World Bank, 2015. "Ugandan Economic Update", 5th Edition, Feb 2015.)

Table 1: Adjusted Agricultural Productivity Gap (APG) calculations for Uganda				
	Agriculture's Share of			
Year	Employment	Value Added	Raw APG	Adjusted APG
1991	0.74	0.4	4.3	1.6
2001	0.71	0.26	7.0	2.3
2009	0.66	0.24	6.1	2.3
2010	0.69	0.24	7.0	2.5
2011	0.69	0.24	7.0	2.1

A comparison of the raw and adjusted APGs in Table 2 suggest that differences in hours worked and human capital are important determinants of inter-sectoral labour productivity differentials in Uganda. In spite of these adjustments, the residual productivity gap measure is still consequential (a factor of around two). While this gap could further be accounted for by factors such as the sorting and selection of workers into sectors (based on unobservable skill) or the mismeasurement of productivity, one *cannot* rule out inter-sectoral differences in labour productivity. APGs are further supported by higher living standards in urban and/or more densely populated areas such as easier access to public goods and services, better public health and educational outcomes.[3] The evidence for higher labour productivity in non-agriculture sectors, and higher living standards in urban areas raises an important policy choice for governments in terms of *the sectors and spaces to prioritise for development* (and the consequent implication for existing disparities).

Urbanisation, industrialisation & services: Signs of a productive transformation?

In spite of the continued dependence on the agricultural sector for employment, the Ugandan economy has been undergoing a process of structural transformation. The share of value added by the agriculture sector in the economy has reduced from about 50% in 1995, to 25% at present (i.e. its contribution to value added has nearly halved). Over the same period, the share of the manufacturing sector in value added has remained stable at around 8%; although, the services sector has notably grown from 36% to 55%. The changing economic landscape, has been accompanied by a rapid process of urbanisation as 70% of the country's non-agricultural GDP is concentrated in urban areas. Firms have shown a preference for locating around areas with higher population density around the Lake Victoria crescent (i.e. the South, Central and Western regions), and the capital city of Kampala in particular.[4] However, as Ugandans migrate to Kampala and other urban centres in search of jobs in the non-agricultural sectors– are they actually moving into high productivity sectors such as manufacturing and tradable services, and benefitting from agglomeration externalities traditionally associated with urbanisation?

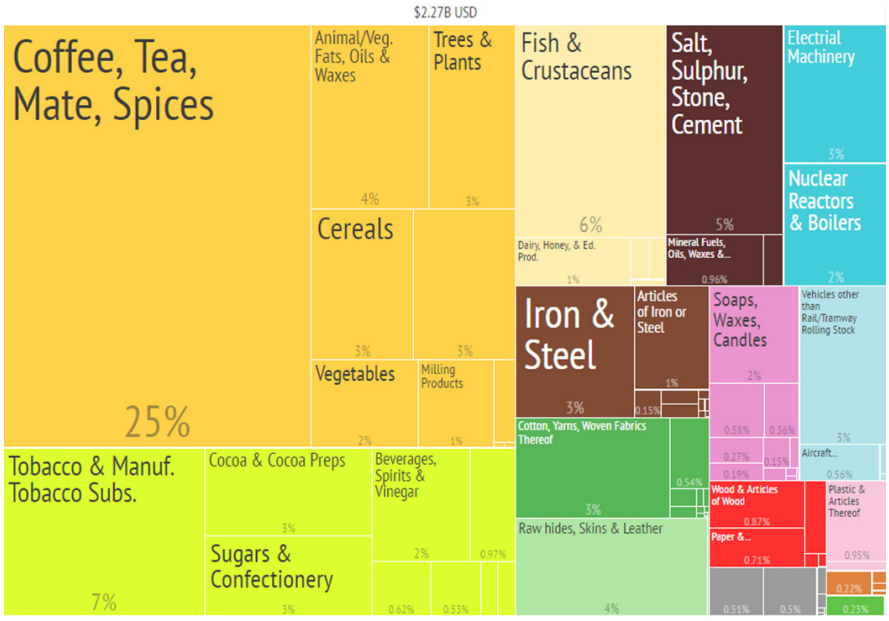
Gollin, Jedwab and Vollrath (2015) argue that the *source* of urbanisation plays an important role

3. Gollin (2016), "Agricultural Transformation and Urbanization: Challenges for Uganda", Bank of Uganda Governor's Lecture Series, October 2016.
4. World Bank (2015), "Ugandan Economic Update".

for determining the pattern of employment and externalities that emerge in urban centers. These sources include income effects from natural resource exports, and from industrialisation. They find that resource rents and industrialisation both drive urbanisation, but that the cities that emerge in resource-exporting countries have more concentrated employment in non-tradable sectors (e.g. commerce, personal services) and lower living standards. On the contrary, cities formed on the basis of an 'industrial pull' generate more productive jobs in manufacturing and tradable services (e.g. finance, insurance, business services) and enjoy higher living standards. The underlying intuition in support of their findings is that in the 'consumption cities' that form in resource-exporting countries, the income effect from increased export earnings is used to buy import commodities (e.g. processed foods) from world markets. At the same time, the increasing demand for urban non-tradable services in these growing cities is met by increased labour allocation to these sectors. In the 'productive cities' that emerge in industrialising countries, the primary difference is that increases in industrial productivity (that drive urbanisation) create jobs in manufacturing and tradable services, in addition to the income effect that draws workers into non-tradable services.[5]

The case of Uganda fits the above analysis on account of both its export basket, which is dominated by primary products (see Figure 1), and its reliance on non-tradable sectors for job creation in urban centers. From 2001 to 2011, over 80% of the growth in non-agricultural employment in Uganda came from the non-tradable sectors to supply domestic market demand. Moreover, only 15% of the new employment opportunities in Kampala were in the tradable sectors, in line with the description of a 'consumption city'.[6] World Bank (2015) discusses that a large proportion of migrants to cities take up employment in poorly paid informal jobs. The same report highlights that employment opportunities are primarily driven by micro-firms that are unable to benefit from economies of scale, and that 70% of businesses with a fixed location operate in the informal sector. In the absence of widespread medium to large sized formal enterprises operating in internationally competitive manufacturing and tradable services sectors, it will be difficult for Uganda's cities to benefit from positive externalities typically associated with the spatial concentration of firms (e.g. product and process innovation, specialisation and knowledge spillovers).

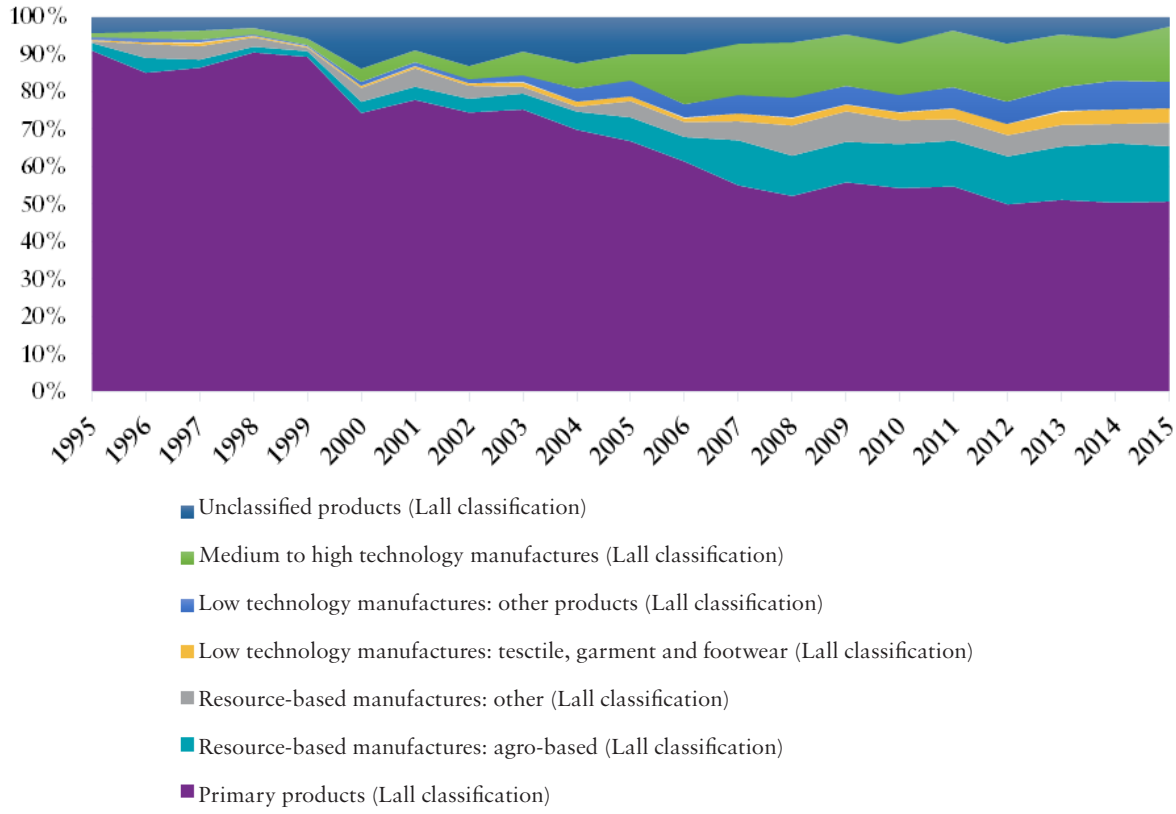
Figure 2: Tree map of Uganda's merchandise exports in 2013[7]



5. Gollin, Jedwab and Vollrath (2015), "Urbanization with and without Industrialization", forthcoming in the Journal of Economic Growth, June 2015.
6. World Bank (2015), "Ugandan Economic Update".
7. Atlas of Economic Complexity," Center for International Development at Harvard University, http://www.atlas.cid.harvard.edu.

There are however some positive indications for the development trajectory of Uganda's economy. Figure 2 demonstrates an encouraging trend of export diversification and increased value addition, as the country's dependence on manufactured exports (including resource-based, low-technology and mid-to-high technology manufactures) increased from around 5% of total merchandise exports in 1995 to 47% in 2015.[8] Another important development is that the share of services in Uganda's total exports of goods and services has risen from 16% in 1995, to 45% in 2015, which is also consistent with the rising importance of the services sector in the country's GDP.[9] Service exports are dominated by travel and tourism services, which account for about 50% of total service exports, followed by construction, transport, business and government services.[10] The gradual diversification of merchandise exports away from primary resource export revenues, and the growth of tradable services is an encouraging indicator of a movement toward productive transformation. In particular, high productivity services or non-traditional 'industries without smokestacks' (e.g. in agro-processing, ICT, transport and tourism) can be strong drivers of economic growth and structural transformation in Uganda.[11]

Figure 3: Composition of Uganda's merchandise exports: Primary Products vs. Manufactures[12]



8. Source: UNCTAD Stat database. http://unctadstat.unctad.org.
9. Source: World Development Indicators database. Accessed on 10th November 2016.
10. Source: UNCTAD Stat database. http://unctadstat.unctad.org
11. Spray and Wolf (2016), "Industries without smokestacks in Uganda and Rwanda", UNU Wider Working Paper, draft as of 10th October, 2016.
12. Source: UNCTAD Stat database. http://unctadstat.unctad.org. The Lall classification is based on: Lall, S. (2000), "The Technological Structure and Performance of Developing Country Manufactured Exports 1985-1998", QEH Working Paper series-QEHWPS44, University of Oxford.

Looking ahead: Linking urban and rural growth in Uganda

In order to promote a productive transformation of the Ugandan economy, the country has various policy options. One, is to focus on increasing export-oriented manufacturing and the growth of tradable services in keeping with the trend described above. However, another channel may be to develop domestic production capabilities to meet the growing demand from urban centers within the country and the region. In particular, meeting the rapidly growing urban demand for food will have the advantage of creating markets for rural production (thus linking urban and rural growth), reducing the import bill, and fostering the development of production technologies that are *within* the feasible product space of Uganda's present industrial capabilities. This pattern of demand-driven agricultural development can help to foster innovation and quality upgradation as agricultural value chain actors (across all stages of the chain) learn to cater to the demands of urban consumers for a wider variety of convenient (i.e. processed), and quality food products.

The demand for packaged foods shows a strong positive correlation with a country's income levels. The expenditure on packaged foods, as a percentage of food expenditures is 7% in low-income countries, 30% in middle-income countries and 45% in upper-middle-income countries.[13] USDA (2015) discusses that Sub-Saharan Africa's top agricultural imports are consumer-oriented products such as prepared foods, dairy, poultry, wine/beer and vegetables. The report points to the potential market for US exports to SSA, as the region's imports of consumer-oriented products have grown by 70% between 2010 and 2015, and now make up 40% of the region's *total* imports. This rapid growth in the regional demand for processed foods can be a powerful market force to drive the development of agricultural production and processing in Uganda.

The growing importance of FDI in retail (e.g. supermarkets) in the country's urban centers can also be used to drive agricultural production, processing and packaging by encouraging the integration of local agribusinesses and producers within supply chains. However, international supply chains for retailers require high standards with regard to product uniformity, traceability, supply consistency, food safety, etc. The integration of local firms into these supply chains will therefore require substantial investments in order to raise business practices and quality standards to the required level, but will also yield substantial benefits in terms of improved local firm capabilities and increased market access (as suppliers or even direct exporters). Vertical integration with supermarkets (who may find it cheaper to source locally) can help to escalate the quality of local firms, and agricultural production through backward linkages. The spatial dispersion of firms engaged in packaging, processing and of primary producers who benefit from such a relationship will help to transmit the impact of urban growth and demand to rural areas.

The Government needs to play a proactive role to facilitate urban-rural linkages, to encourage integration of local firms within the supply chains of international retailers, and to promote 'export-readiness' of local firms in order to meet the growing market demand in Sub Saharan Africa. Possible interventions include *strategic* public investments in supporting public infrastructure, e.g. roads, cold storage, transport, support for farmer organisations, agricultural extension and out grower schemes.[14] In order to promote the integration of local firms into international supply chains, the

13. Gollin (2016), "Agricultural Transformation and Urbanization: Challenges for Uganda"

14. An illustrative example of policy that harnesses peer learning for the uptake of good agricultural practices comes from the neighboring Republic of Rwanda where the 'Twigire Muhinzi' extension model combines the use of Farmer Field Schools (FFS) and Farmer Promoter (FP) approaches. FFS Facilitators and FPs are selected from among farmers themselves, making it easy for them to engage with the community. (See: http://www.twigire.com).

government can help to coordinate and promote investments; address informational asymmetries by playing a matchmaking role between international firms and potential local suppliers; and alleviate local capacity constraints through schemes for enterprise development. The Government can also work in partnership with the private sector to develop a conducive regulatory environment for food safety and food marketing. The development of value chains for urban retail food products will be unable to reach smallholder farmers in remote areas, who may struggle to meet the required product quality standards. The role of the Government for strengthening farmer organisations, cooperatives, providing proximity extension services and facilitating contract farming arrangements will therefore be critical to ensure that farmers learn to consistently produce the standards required of agricultural produce in internationally competitive supply chains.

These strategies will help to bolster the role of agricultural development in a modernising Ugandan economy, and to create an inclusive pattern of growth that links urban and rural progress. The food and agriculture sector will remain important sources of employment for many years to come, and therefore it is important for the Government to ensure that it plays a useful role in the transformation of the Ugandan economy.

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