



Policy Brief

No. 11/
July 2013

Export Supply Response Capacity Constraints: A focus on the Uganda's Export Performance

By Mwebaze, T., Kavuma, S. and Hisali, E

Problem investigated

Macroeconomic stability has been achieved for quite some time in Uganda where for the last decade the country has had a single digit inflation rate averaging at 5% and GDP growth rate of an average of 6% over the last decade (Statistical Abstracts, 2000-2008). Despite the progress at the macro level, the performance of exports has not been commensurate with the growth of the economy. Thus, with the sustained macroeconomic stability and growth, one would have expected a higher export performance, leading to a decline in the trade deficit. However, this has not been the case. The relatively low performance of Uganda's exports has been mainly caused by poor performance in supply capacity, rather than a deterioration of the foreign markets. Whereas the macroeconomic policy environment has been favorable for investors in Uganda, other infrastructure-related constraints, particularly utilities, remain a major challenge. It follows that the export behaviour and performance of current exporters is an area of legitimate interest, and such studies can be of importance to both public and private sector administrators concerned with future export development and success.

Thus, an attempt is made to empirically test a model of export performance focusing on the supply side determinants of exports in Uganda. The relevance of such an exercise rests also on the fact that no clear policy implications emerge from economic literature¹ which looks at the relationship between supply side factors and export performance. Thus, a better knowledge of the determinants of export performance should contribute towards a better qualification of the relationship between export performance and trade deficit, linked to economic growth. Determinants of export performance can be split into external and internal components. In order to formulate trade and industrial policies aimed at stimulating exports in Uganda, it is important to understand the export supply response constraints or which factors stimulate or deter firms from entering foreign markets.

¹ See Harrison (1996) for a review, Yanikkaya (2003) for a comprehensive review and set of estimates and Rodriguez and Rodrik (2000) for a re-examination of the relationship between trade policy and economic growth and a critical review of the literature.

The overall objective of this study was thus to determine the nature and extent of the export supply response constraints and the key non-traditional export products. This study attempts to tease out the factors that constrain export growth both at the macro and micro level. At the macro level, the aim was to ascertain the factors responsible for Uganda's export supply performance. Particular attention was devoted to factors affecting supply conditions after controlling for access to international markets.

Method of analysis

The basic methodology that was employed in the study is the general-to-specific modelling approach. This approach starts off with specification of an over parameterized model and proceeds through a reduction process to obtain a more parsimonious and a better characterization of the underlying economic relationships.

A detailed analysis was undertaken to get an order magnitude of various factors affecting trade performance, taking a systematic look at policy options that induce export supply to the desired levels. Since the effects of specific policies on firm performance may not be captured at macro level, the analysis was extended to the firm level. A major part of this research focuses on the investigation of those factors underlying a firm's export performance. Differences in export supply at firm level were assessed. This contributes to the understanding of export behaviour and performance of firms in Uganda. One major traditional export product (coffee) and a non traditional export (fish) are assessed to further benchmark the constraints to export supply at firm level. In addition, the role/link between actors at different levels of the production process was assessed.

In the aggregate analysis, the aim was to ascertain how Uganda's export performance has evolved over the past decade, whether export trends are declining or rising, and which factors are immediately responsible. After assessing the trends, an attempt was made to examine the role that policy and institutional settings may have in shaping long-term export supply. This is expected to provide clues to the question, what impact do macroeconomic policies and conditions have on export supply? This includes an overview of the potential factors driving growth in the long run.

The analysis consists of estimation of both aggregate export supply response equations and firm supply response functions based on both time series and cross section data. The analysis starts with the performance of exports at the macro level, where the determinants of export supply are analysed. This is followed by the firm level analysis. The supply analysis has been extended to one traditional export product (coffee) and one non-traditional export products (Ffish). This involved the assessment of the productive processes from the provision of specific inputs for the particular product, to primary production, transportation and then marketing/export. Key stakeholders along the supply chain were consulted.

The analysis of firm-specific export supply determinants follows a two-stage process where export behaviour is analysed in two stages. In the first stage, the firm decides whether it will export or not. If yes, then the model goes to the second stage, looking at

how much is exported. Due to the fact that “exporting or not” and “how much exported” are interdependent, the approach is adopted to avoid any bias involved were they to be considered separately. The macro level analysis largely rely on secondary data which was obtained from existing sources and enabled us understand past export trends as well as to project likely future trends. For the macro level analysis, we have used data from Uganda Bureau of Statistics (UBOS), Bank of Uganda and World Development Indicators.

The aggregate analysis may fail to capture the effect of certain policy actions such as sector targeted interventions and regulations. Likewise, differences in exports at firm level may point to variations in the extent to which certain firms benefit from broad policy actions. We extend the analysis of how policy influences export supply by exploring firm-level data, to provide clues on the policy influences on long-term export supply at the firm-level. We attempt to examine the micro determinants of export supply by focusing on the reallocation of resources at firm level, resulting from the expansion of more productive firms, the entry of new firms and the exit of obsolete ones. For in addition to existing data sets, we undertook to collect primary data on the two commodities, coffee and fish.

Key findings

Results indicate that Uganda’s exports have been experiencing an upward trend and this is attributed to mainly to the depreciation of the real effective exchange rate which led to increased producer prices, creating an incentive to produce more export products. However, exports as percentage to GDP has been highly volatile in the last decade due to the sector’s inability to rapidly adjust to the increasing market challenges posed by the technical barriers to trade, especially quality and standard requirements in the country’s leading markets.

Both contemporaneous and lagged foreign direct investment are found to have a positive significant effect on exports. Foreign direct investment is supposed to increase the productive capacity and productivity and should result in an expansion in supply for export. However, the results show that in as much there is a positive and significant relationship between foreign direct investment and exports, the magnitude is small. This can be attributed to the fact that most of the foreign direct investment has been directed to the non agricultural sectors which are not an important source of exports in Uganda.

Results also reveal a strong positive relationship between the value of imports at constant prices and export supply. A one hundred percent increase in imports increases export supply by about 60% . This is not a surprising result for a country like Uganda which relies mainly on imported technology for its production process. Imports continue to grow at a faster rate compared to exports of goods hence inducing the sustained widening of the current account gap that has translated into a form of chronic imbalance.

Consumer price index (CPI) was found to be negative and significant. This is in line with standard theory that an increase in domestic inflation discourages exports. In particular, a one hundred percent increase in the CPI was found to reduce export supply by about 16 percent

The agricultural sector was found to be one of the most significant variables. This means that firms which produce agricultural products will find it easier to export than firms in the other sectors (i.e. as categorized in the study). The results are not surprising since agricultural exports constitute more than 60% of Uganda's exports. Therefore since Uganda has comparative advantage in agriculture probably the country should target the agricultural sector which has outperformed other sectors in the export market.

Installed capacity was also found to be a major determinant for the export supply. It is significant because it greatly influences the level of output and will enable the firm to enter the export market that demands large volumes of commodities.

For the decision to export, labour productivity was found to be a major determinant. Thus, firms with low labour productivity will not be able to enter the export market, which is a common phenomenon for domestic firms. Labour is one of the major factors of production in Uganda where most firms employ labour-intensive technologies especially in agriculture. Thus, the level of employment matters a lot for the decision of the firm to export. The number of workers employed which was used as a proxy for the size of the firm, was also found to be a major determinant of the decision to export. Thus the size of the firm is a significant factor for the firm in deciding to export. Such a variable greatly influences output in Uganda, particularly for the agro industries.

Capital productivity measured by investment per hour was found to influence the decision to export. Capital is a major factor of production and greatly influences output. Capital intensity, measured by the investment per worker is also found to be a major determinant for the decision to export. It means that only firms with high capital intensity will be able to enter the export market.

Belonging to the agricultural sector was also found to be one of the major factors influencing the decision to export. This is in line with the amount exported.

Surprisingly, location of the firm was found not to be a significant determinant of the decision to export. The reason could be that most of exporting firms are located in the urban areas.

The experience of the firm manager was found to influence the firm's decision to export. This suggests that the managerial capacity of the firm impacts on the firm's ability to export, since the export market is a highly competitive market that requires good business acumen.

The legal status of the firm was also found to greatly influence a firm's decision to export. This is because export markets are highly streamlined markets which operate using contracts that must be adequately enforced. Therefore only legally established firms would gain access to the export market, because they would be able to enter into legal contracts of supplying the required quantities, quality and delivery terms.

Financial source was also found to influence the firm's decision to enter the export market. It is important because normally the source determines the amount of finance an entrepreneur will obtain. Credit obtained from the bank is a very important source that influences a firm's decision to enter the export market. This is because credit obtained from the bank is normally sizeable and would greatly impact on the level of production.

At the firm level, major constraints to the export supply response were identified as lack of access to technology, high cost of raw materials, high labour costs, high taxes and license fees, inadequate funds, inconsistency in Government regulations, inadequate marketing information, high power tariffs and corruption. Thus, there is need for improvement in infrastructure, provision of credit facilities at affordable rates, provision of basic inputs at affordable prices, reduction in corruption, taxes and license fees.

At the commodity level, coffee dominates Uganda's export sector, accounting for around two-thirds of the export earnings. Europe imports more than half of Uganda coffee. Most of the overseas trade is conducted by privately owned exporters. The problems of Uganda's coffee industry are commonly seen as poor marketing position, poor infrastructure, lack of access to credit, lack of real-time transparency weak regulatory framework, domestic marketing inefficiencies, and quality deterioration. Fish and fish product exports are second only to coffee. There has been considerable development in industrial fish processing in Uganda since the introduction of economic reforms policies in the country. The fisheries sector has evolved to be one of the major sectors in Uganda's economy in the last decade.

Power supply/electricity is recognized as the most important infrastructure for processing and exporting firms. This is followed by telecommunication services and then transportation. Exporters find it difficult to meet the cost of infrastructure. Performance of the power supply/electricity and transportation is inadequate. Poor performance of infrastructure increases production/transaction costs thereby discouraging the exporters. Particular constraints faced by the majority of coffee processors and exporters are high taxes and corruption. There is ignorance of the laws and standards by fisherfolk, chiefs, local administrators and others which increases infringement. The tremendous growth in fish exports has resulted in several concerns. First, in the last three years, there has been a decline in fish catches, raising concern that there may be over fishing in the lakes, especially Lake Victoria, the major source. Moreover, the actual fish stock in Uganda's water bodies is not known at all.

In summary, whereas the macroeconomic policy environment has been favorable for investors in Uganda, other infrastructure-related constraints, particularly utilities, remain a major challenge. Uganda lacks reliable and efficient infrastructure facilities due to mainly under-investment and the public sector intervention. This contributes to higher costs and poor export performance. Supply-side constraints such as lack of reliable and efficient infrastructure continue to pose enormous challenges to the export sector. There is growing inability of Uganda's exports to rapidly adjust to the increasing market challenges posed by the technical barriers to trade, especially quality and standard

requirements in the country's leading markets. Supply-side inadequacies continue to pose enormous challenges as the export sector is not able to guarantee consistent supplies in the country's leading markets. Institutional rigidities and infrastructure inefficiencies persist and these constrain trade performance.

Policy implication

The current investment promotion policies which were introduced in the 1990s, are found to have stimulated investment in processing and marketing, hence increased volume of exports. Thus, foreign direct investment should be encouraged for higher export supply response. Government should encourage private sector investment by providing a good investment climate to address constraints faced by firms such as the cost of utilities, poor infrastructure and access to credit. The legal framework should be streamlined by improving the procedure for registering and operating a business as well as reducing the cost of doing business. Access to capital is also crucial for the expansion of firms and hence increased export performance.

In order for the Government of Uganda to encourage firms to enter the export market, it should target agricultural firms. Secondly the Government should aim at improving the labour market in Uganda especially the issue of labour productivity which improves the firm's efficiency and will give the firm a place in the export market.

Equally important is the issue of building competitive supply capacity to effectively exploit export opportunities. The main components of supply capacity are transport costs and factors affecting cost of production. The macroeconomic environment also has an important role in shaping supply capacity.

Government should improve infrastructure facilities. The Government of Uganda could do much to raise its supply capacity by investing in transport infrastructure. There is a great need to improve the transport system, i.e. road, water and air transport in order to reduce the transaction costs hence increase the supply of exports. It should improve the quality and increase the supply of electricity through improving service delivery. It should increase water supply particularly to the coffee farmers who can no longer entirely depend on rain water which has reduced due to climatic change. Improvement in infrastructure would reduce the transaction costs hence increased supply of exports.

In addition, the Government should streamline the licensing system by making it more consistent, accessible and affordable. There is also a need to reduce corruption particularly in Government offices.

Relevant institutions such as Uganda Export Promotions Board (UEPB), Private Sector Foundation (PSF) and Uganda Manufacturers Association should be more vigilant in providing processors with relevant business and technical information.

Individual firms should improve firm/product competitiveness by improving standards and adding value to the product. In addition, individual firms should improve networking

and forming strategic alliance with foreign firms in the export market in order to penetrate the foreign market.

In regard to the fish sub-sector, the Government should provide life jackets at reduced price, machines for ice/building ice plants at every landing site, provide security to the fishermen to reduce theft on the lake, regular patrol of the water and fight illegal fishing.

Measures should be put in place to reduce the number of fishermen and carry out sensitization programmes on how to use good methods of fishing. Efforts should be made to improve the roads connecting the landing site to the main highways, and to institute incentives and disincentives which will ensure the proper utilization and conservation of the fisheries resources.

Building the lobby and advocacy skills of the fishers and that of enabling them to form a strong network or an alliance to advance their cause would lead to better performance of the fish sector.

Capacity building is still lacking at the local level and therefore the need for them to have the right knowledge, skills and attitudes to perform their roles satisfactory.

There is need to improve market information, which could be done by organizing trade fairs, control of pests and diseases through use of proper farming methods and applying appropriate pesticides.

Other strategies include; improved market information, which could be done by organizing trade fairs, improvement in the regulatory framework, reduction in corruption, improvement in technology and improvement in the quality of the products.