

DETERMINANTS OF ETHIOPIA'S EXPORT PERFORMANCE: AN ECONOMETRIC INVESTIGATION

Berhanu Lakew

1. Introduction

For the last 33 years, the export structure of Ethiopia has been characterized by greater concentration on few traditional exports such as coffee, hides and skins and oilseeds and pulses. From the total exports of the country coffee was the dominant export commodity accounting for about 56.4 percent of the country's total exports, on average. Hides and skins was the major non-coffee export commodity accounting for 11.9 percent of the country's exports followed by oilseeds (4.8 percent), pulses (4.5 percent) and chat (4.4 percent). The main markets for Ethiopian exports were Germany, U.S.A, Japan, Saudi Arabia, Djibouti and Italy accounting for about 17.4 percent, 16.8 percent, 10.1 percent, 7.8 percent, 7.7 percent and 7.3 percent, respectively, on the average, during the same period.

The overall performance of the export sector was unsatisfactory during 1970/71 – 2002/03 as evidenced by the lower export/GDP ratio and the declining share of exports in import financing.

The export/GDP ratio has declined from the 1970/71 - 1973/74 average level of 7.1 percent to 6.8 percent in 1974/75 - 1990/91 and further to 6.5 percent in 1991/92 – 2002/03. Also, the share of export in import financing (Export/Import ratio) has contracted from the 1970/71 - 1973/74 average level of 88.5 percent to 54.2 percent in 1974/75 - 1990/91 and 30.6 percent in 1991/92 – 2002/03.

Such unsatisfactory performance given the government's endeavour to increase the country's foreign exchange earnings by pursuing concrete policy measures and incentive schemes calls for specific case studies concerned with systematic identification of factors constraining export growth and diversification. However, model based analysis of the determinants of the country's exports are scanty in Ethiopia. Moreover, some empirical studies have specification problems ignoring the simultaneity between prices and quantities in the specification of export demand and supply functions. For instance, a World Bank (1987) study has ignored the demand side in specifying an export supply function for Ethiopia. It has also employed fewer

observations without taking into account the time series characteristics of the data. Tura (2002), on the other hand, have ignored supply side factors in his export model. It is such a consideration, which motivated the present model based study on the determinants of Ethiopia's export performance by incorporating demand and supply side factors so as to identify possible policy intervention areas for export growth. The objectives of the study is thus to:

- Assess the structure and performance of the export sector;
- Empirically investigate the determinant's of the country's exports by specifying an econometric model; and
- Highlight policy intervention areas for the growth of the export sector.

The rest of the paper is organized as follows. First the theoretical and empirical literature on determinants of export performance is summarized in Chapter 2 followed by an extensive review of Ethiopia's export policies in Chapter 3. Chapter 4 presents the main tenets of current export development strategy, the institutional framework and the export targeted incentives to broaden our understanding on what has been and is being done by the government to support the sagging export sector. An assessment of the structure and performance of the export sector is summarized in Chapter 5. Data and methodology and empirical results of the model are summarized in Chapters 6 and 7, respectively. The paper ends by presenting the summary and policy implications of the study in Chapter 8.

2. LITERATURE REVIEW

2.1 Theoretical Literature

Systematic identification of factors constraining export growth and diversification is quite important in the design and effective implementation of export enhancing policies. Available literature revealed the existence of two contrasting school of thought on what has been the constraining factor in developing countries exports. One school of thought, the "trade pessimists", ascribed the export setback to the difficult conditions in the export markets, especially the protectionist reaction by the industrialized countries. Structuralists, on the other hand, blame supply side constraints within the developing countries as the main factors that inhibit export growth and diversification.

Henson et.al. (2001, p.89), provide argument in support of the former. According to them sanitary and phytosanitary (SPS) measures by the developed countries are the

major factors influencing the ability of developing countries to exploit export opportunities for agricultural and food products in developed country markets.

Wilson (1984) argued that the issue of who is correct depends on the price elasticity of export supply and on the relationship between exports and domestic market production. According to him, the structuralists view will be valid in conditions of low price elasticities of export supply and when there exist a negative relationship between exports and domestic market production.

There are other arguments that consider policy failure as a major constraint on effective export diversification. According to Yuan (1992), the success of export orientation depends to a greater extent, on sound policy implementation, at the right place and at the right time in removing constraints and seizing opportunities. The joint staff study of the IBRD/IMF (1969) indicated the existence of two major problems in the implementation of systematic diversification policy. These relates to the choice of products in to which to diversify and the geographical distribution of diversification activities. According to the World Bank (2000), policy distortions, poor infrastructure services, high risks and high transaction costs that inhibit competitiveness are the prime barriers on effective export diversification in Africa.

Berhanu et.al (2002) classified the export constraining factors in developing country's exports in to two broad categories: external and domestic factors. According to them, the factors that are external to exporting developing countries include international trade laws and regulations, regional trade organizations laws and regulations and the import regulations of individual countries. On the other hand, the domestic factors that are hypothesized to influence the competitiveness of developing countries exports include government policies, the level of industrial development, the incentive structure, the export support services that are instituted and firm specific factors such as skill composition, personnel and engineering management, among others.

The arguments summarized above do highlight the difficulty of providing a concrete answer to the question of who is correct, trade pessimists or structuralists, without reference to empirical studies (Wilson, 1984).

2.2 Empirical Literature

In investigating the determinants of Egypt's export supply Wilson (1984) found a positive and significant relationship between domestic market production and exports in the case of raw cotton, cotton yarn, potatoes and bleached rice except cotton fabrics indicating the existence of domestic production externalities in these products

i.e. exports can be expanded without domestic production for the internal market being sacrificed.

By estimating a log-linear manufactured exports supply function with adjustment lags for Malaysia, Beng (1992) found a positive and statistically significant coefficient for real effective exchange rate and OECD countries real GDP variables.

Goldar (1989) has identified the determinants of India's export performance in engineering products based on econometric analysis. His result suggest that world demand, cumulative output and the products of total factor productivity and the rupee-dollar exchange rate (as a measure of price competitiveness) are the important determinants of export performance since the estimated coefficient of this variable was positive and statistically significant.

Prasad (1992), on the other hand, specified a log-linear form simultaneous equation model of export demand and supply for India. His result suggests that the country's competitiveness (its export price relative to that of comparator countries) and world income are the important determinants of the demand for exports from India. On the supply side, he found a positive and significant supply response to net price realization (unit value of exports deflated by CPI) while a negative elasticity of supply of exports was reported with respect to net absorption (nominal domestic credit relative to real GDP). In view of such a significant and negative elasticity coefficient of absorption, he highlighted the importance of drawing attention to demand management as an element of a foreign trade policy.

2.3 Literature on Constraints to Ethiopia's Export Growth

In the Second Five-Year Development Plan, both external demand and domestic supply were highlighted to be the determinants of the level of exports. Although external demand was reported to have contributions for the poor export performance, domestic production bottlenecks were blamed, to a greater extent, for the inability to achieve the anticipated structural shift in favour of industrial products (Imperial Government of Ethiopia, 1962).

The World Bank (1987), in a report entitled " Ethiopia: An Export Action Program", have considered exchange rate overvaluation, the low level of investment in the economy, the coffee surtax, the inadequate marketing infrastructure, the high tariffs on imports of raw materials, the unfavourable terms of trade and insufficient adjustment of producer prices as limiting factors to the country's export growth.

It has supplemented its analysis of the constraints to Ethiopia's export growth by a log-linear export supply model specifying the volume index of exports as a function of real GDP, unit value index of exports deflated by implicit GDP deflator, the export weighted real effective exchange rate, the ratio of export taxes to exports and the private consumption/GDP ratio. The result revealed a statistically significant influence of export tax and private consumption variables, the estimated elasticities being -0.29 and -3.78 for the two variables, respectively. Their model is not consistent with recent trade theories that hypothesized the existence of simultaneity between prices and quantities.

In the Transitional Government of Ethiopia economic policy document it was reported that "the decline of exportable agricultural products has worsened the foreign exchange position of the country" and past misguided policies, to a larger extent, were blamed for such a failure in agricultural production (Transitional Government of Ethiopia, 1991).

Bruk (1999) highlighted market access, low level of private investment, high transaction cost, infrastructural deficiencies, delays in service delivery, limited marketing know-how and shortage of skilled manpower as the main constraints facing the country's export sector.

Alemayehu (2001) has estimated an aggregate supply equation for exports of coffee. His econometric result suggest that, except for the price of competing goods, all regressors including the real exchange rate are not important in the short-run. In the long run, on the other hand, supply factors proxied by fertilizer use are found to be the significant determinant of coffee export supply.

Tura (2002), on the other hand, has estimated an export demand equation specifying real exports as a function of weighted real GDP of trading partners less their exports and relative price of exports. His Johansen procedure based results revealed that both relative price and foreign income are insignificant in the long run while foreign income is a significant export determinant in the short-run. He concluded by highlighting the possibility of export diversification in the long run as foreign income and relative prices are not the significant determinants of the country's exports. His neglect of supply side factors in the export model is criticizable from the point of view of recent trade theories that favour simultaneous treatment of demand and supply side factors in an export function.

Berhanu et.al.(2002) in analysing the sources and uses of export support services in Ethiopia considered the supply of export support services such as external market

information, contact making, pre-export services including export finance, technical assistance and government facilities as one of the missing factors responsible for the country's export setback.

3. THE COUNTRY'S EXPORT POLICY: A REVIEW

3.1 Pre-1974/75

During this period the foreign trade sector was governed by a relatively free market oriented policies with the private sector (mainly foreign capital) occupying the lion's share in both export and import activities. Although import substitution was the dominant trade strategy of the country, the concern over export diversification, at least explicitly, started with the First Five-Year Development Plan (1957-1961) that acknowledged the economic instability consequences of the dependence on two or three products.

As indicated in the plan, the volume of the country's exports, the balance of payments position and the level of budgetary revenue depends on the price movements and the extent of demand for the three main export commodities-coffee, hides and skins and oil seeds. Thus, it calls for a diversified structure of exports by exploiting the numerous livestock, the products of agro-industries such as sugar, canned meat, and leather, and minerals to secure average annual export growth of 9 percent and 11 percent share of exports in national income (Imperial Government of Ethiopia, 1955).

The Second Five Year Development Plan (1962-1966) placed great emphasis on structural change and export diversification to achieve higher level of foreign exchange earnings (Imperial Government of Ethiopia, 1962). The plan envisaged to reduce agricultural products export share from 93.6 percent in 1961 to 72.3 percent in 1966 while that of manufactured products expected to pick-up from 5.2 percent to 24.2 percent during the same period.

Through the establishment of government foreign trade corporations; revision of existing customs tariff to protect domestic products and stimulate exports; directing credit, premium and subsidy policies towards the development of production and promotion of exports; conclusion of a series of bi-lateral and multilateral economic agreements as well as better participation at international trade fairs, average annual export growth rate of 11 percent was targeted.

Geographic diversification of exports of traditional exports such as coffee, livestock products and oilseeds as well as the development of non-agricultural exports was the concern of the Third Five Year Development Plan (1968-1973). The plan envisaged to reduce the share of primary agricultural exports in the country's total exports from 86 percent in 1967 to 75 percent in 1973.

3.2 1974/75-1990/91

The export objective of the Ten Years Perspective Plan of the Dergue Regime were increasing foreign exchange earnings, reducing the dependence of the country's export sector on limited export markets, increasing the amount and composition of manufactured exports and increasing the socialization of the export sector (Provisional Military Government of Socialist Ethiopia, 1985).

By emphasizing the role of state owned export companies, geographic diversification of exports towards the markets of socialist countries and neighbouring African countries as well as diversification towards manufactured products, to a greater extent, were the agendas of the perspective plan. During the plan period, average annual export growth rate of 15.4 was targeted and state export companies were expected to play a critical role by occupying 90 percent of the export business.

As indicated in the plan, the respective shares of traditional exports (coffee, hides and skins, pulses and oil seeds) as a group as well as that of coffee was expected to be reduced from 78.1 percent and 55.1 percent in 1985 to 60.1 percent and 39.9 percent in 1994. On the other hand, the share of slow moving traditional exports (live animals, meat products, fruits and vegetables, spices, sugar and molasses, natural gum, chat and others) was targeted to pick-up from 21.8 percent in 1985 to 57.6 percent in 1994. New export products such as copper, potash, marble, soda ash, cement, ceramics and leather products were planned to be forwarded to the international market starting from the second half of the perspective plan.

3.3. Post 1990/91

The economic policy of the Transitional Government of Ethiopia acknowledged the importance of increasing and diversifying the country's exports to ease foreign currency shortages along a free market-based economic path (Transitional Government of Ethiopia, 1991). By minimizing the role of the state in foreign trade sector and by ensuring adequate private capital participation in the export business, the government aimed at increasing exports and foreign exchange earnings. To this end, measures such as provision of fiscal incentives to exporters, the replacement of

quantitative restrictions with tariffs, encouraging export-oriented investment, minimizing administrative and bureaucratic procedures and promotion of the use of trade information were highlighted.

In October 1992 International Monetary Fund (IMF) and World Bank supported structural adjustment programme was launched whose basic role in the exchange and trade system was to strengthen incentives for diversified export production thereby attracting foreign exchange flows away from parallel markets.

Pursuant to the market based economic policy and the associated structural adjustment programme which was launched in October 1992, a bunch of policy measures targeted at stimulating export growth and diversification have been enacted. The prominent measures in this respect include

- Streamlining of export licensing procedures and abandoning of the bureaucratic trade licensing chains,
- Devaluation of the Birr and step-by-step liberalization of the foreign exchange market,
- Abolishing all taxes on exports (except coffee) and subsidies to parastatal exporting enterprises as of December 1992 and since April 2001 exporters were waived from the 6.5 percent coffee export tax,
- Abolishing coffee price differential system as of February 2002, allowing coffee exporters to export at whatever price they fetch in the international market, and
- Eliminating foreign exchange surrender requirements and replacing it with a conversion requirement.

In addition, an Export Development Strategy was promulgated, export support institutions were established and export specific incentive system was instituted. In what follows the main tenets of country's Export Development Strategy, the institutional framework and the existing export specific incentive schemes will be highlighted to broaden our understanding on what has been and is being done in the country with respect to this sluggish sector.

4. THE CURRENT EXPORT DEVELOPMENT STRATEGY, THE INSTITUTIONAL FRAMEWORK AND EXPORT TARGETED INCENTIVES

4.1. The Export Development Strategy

Recognizing the key role of the export sector in the economic development of Ethiopia and acknowledging that the provision of institutional support is vital for the development of the country's export sector, the government of Ethiopia has promulgated an Export Development Strategy in February 1998. The main objectives of the strategy, as highlighted in the strategy paper, are sustaining the growth of agricultural production, generation of foreign exchange and promotion of internationally competitive industry (Ministry of Trade and Industry, 1998).

While recognizing the difficulty of avoiding heavy reliance on agricultural products within a short period of time, the strategy considers the export of coffee, cotton, fruits and vegetables, livestock and livestock products the immediate concern since they have wider and stable foreign markets. However, a sustainable market for agricultural products calls for their supply in manufactured form. In light of this, the strategy gives focus to textile, leather, meat and other agro-industries with greater employment generating potential and easy entry.

The strategy highlights the importance of providing all rounded support services and incentives to exporters including market information provision, credit priority, priority in the provision of working premises, warehouses, etc. and it calls for coordination of the export promotion effort and proper utilization of existing capacity in the most efficient way. To this effect, the Ethiopian Export Promotion Agency is established.

4.2. Export Support Institutions

As highlighted above in the Export Development Strategy, the Government of Ethiopia has recognized the importance of putting in place appropriate export promotion services and the institutions thereof. The establishment of the Ethiopian Export Promotion Agency concerned with the design and coordination of the overall export promotion task is one of the concrete steps in this regard. The Ethiopian Trade Point under the Ethiopian Export Promotion Agency is a source of trade related information on business and market opportunities, potential clients and suppliers, trade regulations and requirements, etc.

The other significant step in export support is the establishment of the Animal Products Marketing Agency as well as Leather and Leather Products Technology Institute, the former concerned with the development of the livestock sector in general and the later aimed at promoting the production and export of the leather industry.

In a country like Ethiopia where the private sector has a very limited capacity in supplying export support services and in view of the fact that the provision as well as use of export support services is at its infancy (Berhanu et.al., 2002), the establishment of the Export Promotion Agency and other export support institutions by the government is a step forward in the right direction. What is now needed is targeted and concrete support services that enable exporters fetch the ever-increasing competition in the global market.

4.3 Export Incentive Schemes

4.3.1 Export Trade Duty Incentive Scheme

The Export Trade Duty Incentive Scheme incorporate three types of incentive schemes: Duty Draw-Back Scheme, Voucher Scheme and Bonded Manufacturing Warehouse Scheme.

- i) Duty Draw-Back Scheme: Under the duty draw-back scheme exporters would be refunded 100 percent of the duty, including indirect taxes, paid on raw materials used in the production of commodities up on exportation of the commodities processed. If the imported raw material is re-exported in the same condition, the duty that should be drawn-back is 95 percent.
- ii) Voucher Scheme: Under this scheme vouchers are issued by the Customs Authority to exporters having manufacturing license and fulfilling the eligibility criteria, stipulated in proclamation No. 249, 2001, in the amount of taxes and duties to be paid on raw materials imported by them for their export production. A voucher is a document having monetary value printed by the Ministry of Finance and Economic Development for use as deposit for duties and taxes payable on imported raw materials.
- iii) Bonded Manufacturing Warehouse: This is a duty-free importation scheme which allow exporters, having manufacturing license and insured warehouses that fully comply with all customs laws and regulations, to import the required raw materials free of duties for use in the production of manufactured exports. Beneficiaries of this scheme are those exporters who are not eligible to use the voucher scheme.

4.3.2 Export Credit Guarantee Scheme

An export credit guarantee is a form of insurance cover for political and commercial risk thus enabling exporters borrow corresponding amount of money from banks.

According to the revised directive (No.SBB/33/2002), the National Bank of Ethiopia is going to provide an export credit guarantee to safeguard export financing banks against losses resulting from the export transactions they finance, the risk coverage being 80 percent of the outstanding loan balance and interest there off extended to an exporter. The scheme covers all export products except coffee. The interest rate on pre- or post-shipment export credit is the prevailing lending rate in each financing bank.

As indicted in the 2002/03 Annual Report of the National Bank of Ethiopia, a total of 38 non-coffee exporters have benefited from the export credit guarantee scheme securing a total guaranteed credit of Birr 291 million since the commencement of the scheme in December 1999.

4.3.3. Foreign Exchange Retention Scheme

Another export sector related incentive scheme is the foreign exchange retention facility. According to the "Retention and Utilization of Export Earnings and Inward Remittances Directive Number FX/11/1998" of the NBE, eligible exporters of goods and services and recipients of inward remittances are allowed to benefit from the retention scheme. While they are allowed to retain 10 percent of their export earnings in Retention Account A for an indefinite period of time, the remaining 90 percent is allowed to be deposited in Retention Account B for a maximum of 28 days.

The balance in Retention Accounts A and B can be used for purposes such as import of goods and related services, export promotion, payment of advertisement and marketing expenses, subscription of business publications, training and educational expenses, settlement of external loans, and payments of suppliers credit, the former for an indefinite period of time and the later up to 28 days only. After the expiry of 28 days, commercial banks are obliged to convert the balance in Retention Account B for their own account and pay the Birr equivalent to its customer using the applicable inter-bank rate for the day.

4.3.4 External Loan and Suppliers' or Foreign Partners' Credit

Considering that the investment proclamation has enabled domestic investors in Ethiopia to acquire external loans and with the view of encouraging export production, the NBE has promulgated a Directive for the Registration of External Loan and Suppliers' or Foreign Partners' Credit.

According to the revised directive (No.REL/005/2002), recipients of external loans and suppliers' or foreign partners' credit should be registered by the NBE. Otherwise, no remittances are allowed for the purpose of payment of such loans or credit. Application for registration of external loan and suppliers' credit is allowed for individuals and enterprises engaged in export-oriented activities which generate foreign exchange.

The registration of external loan, as shown in Article 4 of the directive, is made only after it is ascertained that the acquired loan is going to finance an export-oriented investment that generates foreign exchange. In the case of an acquired supplier's or foreign partner's credit, the registration is made only after it is ascertained that the credit is going to finance the importation of capital goods, raw materials, semi-finished products and spare parts to be used in the production and transportation expenses of exportable products.

5. A GLYPSE AT ETHIOPIA'S EXPORT SECTOR

5.1. The Commodity Structure of Exports

As a reflection of the critical role of agriculture in the Ethiopian economy, the export structure has been dominated by primary agricultural commodities such as coffee, hides and skins, oilseeds, pulses and chat. For the last 33 years, covered by the present study, these five traditional agricultural commodities accounted for 84.41 percent of the country's total export, on the average, signifying the high level of commodity concentration in the country's export sector.

The percentage composition of Ethiopia's export trade over the period 1970/71 to 2002/03 is shown in Table 1 below. Clearly, coffee has been the dominant export commodity in Ethiopia contributing most (56.4 percent) to the country's foreign exchange earnings. The figures do, however, indicate a tendency for coffee export share to decline in recent years (it went down from 58 percent in 1998/99 to 34.2 percent in 2002/03) mainly due to the continued slump in its unit value (world price).

Hides and skins, oilseeds, pulses and chat stood as the second, third, fourth and fifth important export items of the country which accounted for a respective 11.9 percent, 4.8 percent, 4.5 percent and 4.4 percent average share in the period 1970/71 – 2002/03. It is worth mentioning the important role of gold export to the Ethiopian economy. Since its inclusion in the country's export list in 1985/86, gold accounted for 6.4 percent of the country's total export per annum, on the average.

Despite the huge livestock resources of the country, the export share of meat and meat products was quite lower (0.88 percent) in the review period, thus requiring a concerted effort both by the government and the private sector so as to exploit such untapped potential. Benefiting from the Export But Arms (EBA) arrangement of the EU, the export of sugar has shown an increasing trend in recent years as its share went up from 0.61 percent in 1999/00 to 3.71 percent in 2002/03. Had it not been the sluggish nature of our textile sub-sector, the country would have observed a significant change in the export structure by exploiting the market opportunities created by the African Growth and Opportunity Act (AGOA). Today, the level of exports of textile is quite low and its share from the country's export basket has been negligible (0.12 percent in 2002/03).

Table 1: Percentage Composition of Ethiopian Exports

Export Item	1970/71	1980/81	1990/91	2000/01	2001/02	2002/03	1970/71– 2002/03 (Average)*
Coffee	58.62	61.58	46.92	39.31	36.07	34.24	56.43
Hides & Skins	7.91	10.89	16.12	16.39	12.28	10.82	11.94
Oilseeds	9.94	3.33	0.63	6.97	7.21	9.55	4.84
Pulses	6.53	2.78	2.75	1.88	7.28	4.13	4.47
Chat	0.73	2.62	3.57	13.20	10.83	12.02	4.38
Fruits & Vegetables	1.98	0.43	2.10	1.18	2.07	1.98	1.16
Meat & Meat Products	2.30	0.74	0.18	0.37	0.24	0.50	0.50
Gold	-	-	12.91	6.07	7.78	8.72	6.36
Other Exports	11.98	17.63	14.83	14.61	16.23	18.04	9.54
Total	100.00						

* The average export share for gold is for the period 1985/86 – 2002/03

The above commodity structure analysis highlight the greater commodity concentration and the mono-cultural nature of the country's exports. What is then the economic implication of such a dependence on a narrow range of traditional agricultural commodities? Available literature associated a higher commodity

concentration to the increasing export earnings instability problems of commodity exporting countries, thus arguing in favour of diversification so as to achieve a greater degree of stability in export earnings.

5.2. The Geographic Structure of Exports

Alike the commodity structure, the country's exports has been concentrated geographically with the large proportion of exports destined to limited markets. As the direction of trade statistics compiled by the NBE revealed, six countries (Germany, U.S.A., Japan, Saudi Arabia, Djibouti and Italy) accounted for about 67.3 percent of the country's export market, on the average, during 1970/71 – 2002/03. This do highlight the existence of structural rigidity in the geographic structure of the country's exports with a consequent vulnerability to fluctuation in demand in any of these countries.

Looked on individual country basis, the best market for Ethiopia's exports (buying on average around 17.4 percent of the total) has been Germany. The average percentage shares of the other important markets (destinations) by degree of importance was 16.8 percent (U.S.A.), 10.1 percent (Japan), 7.8 percent (Saudi Arabia), 7.7 percent (Djibouti) and 7.3 percent (Italy). It is worth mentioning the significant decline in exports destined to the U.S.A. market between 1970/71 and 1990/91, highlighting the influence of ideological and political factors in export business.

Table 2: The Direction of Ethiopian Exports (A percentage share)

Destination	1970/71	1980/81	1990/91	2000/01	2001/02	2002/03	1970/71– 2002/03 (Average)
Germany	8.16	10.75	23.04	10.77	11.87	8.52	17.43
U.S.A.	47.34	19.70	5.62	3.38	4.50	8.21	16.78
Japan	4.86	5.77	19.62	10.35	7.99	4.55	10.14
Saudi Arabia	6.60	9.70	7.79	8.02	6.22	4.40	7.80
Djibouti	6.30	8.50	10.72	16.85	7.38	7.00	7.76
Italy	6.22	7.79	6.16	8.77	10.62	4.42	7.34
Kenya	0.41	0.12	0.36	0.43	0.004	3.24	0.39
Sudan	0.02	0.19	0.001	0.16	0.02	1.86	0.38
Other Destinations	20.09	37.48	26.69	41.27	51.40	57.8	31.98
Total	100.00						

5.3. The Degree of Openness and Performance of the Export Sector

Unlike many developing countries, Ethiopia's merchandise export sector has been tiny constituting a minor share of GDP for the last three decades. The ratio of export to GDP was 5.54 percent in 1970/71, 8.45 percent in 1980/81, 2.83 percent in 1990/91, 7.11 percent in 2001/02, 7.46 percent in 2001/02 and 7.59 percent in 2002/03. On the average, the share of export in total GDP was 6.72 percent for the last 33 years. Looked on per capita terms, the value of exports of Ethiopia was again quite limited amounting to 4.97 USD in 1970/71, 11.06 USD in 1980/81, 5.33 USD in 1990/91, 7.09 USD in 2000/01, 6.73 USD in 2001/02 and 6.99 USD in 2002/03. The average per capita export in Ethiopia was 7.96 USD per annum throughout the period.

On the import side, the import/GDP ratio, which was 6.71 percent in 1970/71 has increased to 13.73 percent in 1980/81. After slackening in 1990/91 to 11.1 percent, definitely due to the stiff foreign exchange shortage during that period, the country's import/GDP ratio has increased steadily during the last decade reaching 23.92 percent in 2000/01. The picture for recent years was also on the increase with the import/GDP ratio amounting to 28 percent and 29.2 percent in 2001/02 and 2002/03, respectively. The average import/GDP for the whole period was 15.4 percent.

The lower export/GDP ratio compared to imports, do highlight the closed nature of the Ethiopian economy on the export side and the limited ability of the export sector in financing the country's import demand. In fact, for the last 33 years export was able to finance only about 52 percent of the country's import demand with the remaining 48 percent being financed by the net forex inflows from services, unrequited transfers and loan disbursements.

Table 3: Developments in Merchandize Trade (1970/71 - 2002/03)

Year	Total Export (MIn USD)	Coffee Export (MIn USD)	Total Import (MIn USD)	Export/ GDP Ratio	Coffee/ GDP Ratio	Import/G DP Ratio	Export/I mport Ratio	Per Capita Exports
1970/71	148.01	86.76	179.38	5.54	3.25	6.71	68.32	4.97
1971/72	153.72	79.56	195.54	5.71	2.95	7.26	68.12	5.04
1972/73	218.41	96.76	211.28	7.76	3.44	7.51	96.79	7.00
1973/74	285.47	80.25	236.28	9.21	2.59	7.62	120.82	8.92
Average	201.40	85.83	205.62	7.06	3.06	7.28	88.51	6.48
1974/75	218.77	56.77	313.18	7.05	1.83	10.09	69.86	6.69
1975/76	253.92	143.81	325.90	7.65	4.33	9.81	77.91	7.58
1976/77	307.65	197.95	362.00	8.09	5.20	9.52	84.99	8.94
1977/78	314.44	248.56	325.27	7.83	6.19	8.10	96.67	8.91
1978/79	353.19	268.59	576.21	7.87	5.99	12.84	61.29	9.76
1979/80	458.36	305.14	661.78	9.62	6.40	13.89	69.26	12.32
1980/81	411.36	253.30	668.73	8.45	5.20	13.73	61.51	11.06
1981/82	375.89	232.02	787.04	7.32	4.52	15.32	47.40	10.09
1982/83	391.12	239.55	846.81	6.88	4.21	14.89	46.19	10.20
1983/84	449.09	285.24	999.34	8.46	5.37	18.83	44.97	11.38
1984/85	359.70	225.25	854.31	5.72	3.58	13.58	42.06	8.83
1985/86	446.29	321.15	1068.07	6.81	4.90	16.29	41.78	10.60
1986/87	384.20	253.31	1080.58	5.53	3.64	15.54	35.55	8.84
1987/88	373.74	212.16	1098.89	5.17	2.93	15.19	34.01	8.34
1988/89	436.11	302.63	1019.52	5.73	3.98	13.41	42.78	9.44
1989/90	355.94	195.70	881.21	4.38	2.41	10.84	40.39	7.47
1990/91	262.07	129.69	1029.13	2.83	1.40	11.10	25.46	5.33
Average	361.87	227.70	758.70	6.79	4.24	13.12	54.24	9.16
1991/92	134.80	81.32	874.83	1.34	0.81	8.71	15.41	2.66
1992/93	187.65	125.83	979.85	3.00	2.01	15.68	22.13	3.58
1993/94	214.52	124.35	928.24	4.37	2.53	18.92	26.13	4.01
1994/95	437.09	287.82	1117.88	8.06	5.31	20.62	41.73	8.00
1995/96	401.89	272.88	1221.13	6.69	4.54	20.34	32.94	7.13
1996/97	536.19	354.95	1309.36	8.41	5.56	20.53	40.95	9.23
1997/98	601.80	419.89	1356.90	9.24	6.44	20.82	44.35	10.05
1998/99	484.30	281.28	1558.00	7.45	4.33	23.98	31.08	7.85
1999/00	486.06	262.03	1610.80	7.44	4.01	24.66	30.18	7.66
2000/01	462.70	182.00	1556.80	7.11	2.80	23.92	29.72	7.09
2001/02	452.30	163.20	1696.00	7.46	2.69	27.99	26.67	6.73
2002/03	482.70	165.30	1856.39	7.59	2.60	29.18	26.00	6.99
Average	406.83	226.74	1338.85	6.51	3.64	21.28	30.61	6.75
Over all Average	358.77	210.15	902.62	6.72	3.88	15.38	49.80	7.96

6. DATA AND METHODOLOGY

6.1 Sources of Data

Secondary data is employed in the present study for the period 1970/71 - 2002/03 and the basic data sources were the various issues of the Quarterly and Annual Bulletins of the National Bank of Ethiopia. Annual average exchange rate is used to convert the Birr values into USD equivalent. All nominal values except the real effective exchange rate and real world GDP were converted in to real value using the GDP deflator data obtained from the Ministry of Finance and Economic Development (MOFED). Data on real effective exchange rate and real world GDP are obtained from internal sources of the NBE.

6.2. Model Specification

Export demand functions at the aggregate level, specified as a function of relative export price and real income of importing countries, has been employed in econometric modeling of export performance and the functions has been estimated in log-linear form using ordinary Least Squares Method. Such an approach was, however, challenged by some empirical researchers such as Goldestein and Khan (1985), Prasad (1992), Goldar (1989), etc., who maintained that the supply-side should also be taken in to account as there exist a simultaneous relationship between quantities and prices.

To account for such simultaneity, some attempts have been made by Goldstein and Khan (1985), Prasad (1992) and others to estimate the export demand and export supply functions in a simultaneous equations framework. On the other hand, many studies have included demand-side and supply-side determinants of export performance in the same regression equation. For instance, Beng (1992) for exports of manufactures from Malaysia and Goldar (1989) for exports of engineering products from India have specified a reduced form equation for export behavior incorporating both demand and supply side factors in a single regression equation. This latter model is termed as export function or export determination model because it is neither an export demand function nor an export supply function.

Since identification of the determinants of Ethiopia's export performance is the main objective of the present study, a log-linear form single equation export determination model is employed incorporating both supply and demand related variables. In

specifying the model, export performance is hypothesized to be dependent on real output, domestic demand pressure, real effective exchange rate, real GDP of importing countries and real private sector credit.

Real Output (GDP): The inclusion of real output in the model is based on the argument that the output capacity of an economy or secular changes in the level of real output has implications on factor supplies, infrastructure and total factor productivity thus affecting export performance (World Bank, 1987; Goldstein and Khan, 1985). The expected sign of this variable is positive.

Domestic Demand Pressure: The specification of the export determination model to handle domestic demand is based on the premise that when domestic demand pressure increases, selling in the local market becomes more profitable than selling abroad (Goldstein and Khan, 1985) and such pull of domestic demand erodes the availability of exportables for the world market (Prasad, 1992). In this respect, real private consumption is included in the model to test empirically the influence of domestic demand pressure on real exports. This variable is expected to be negatively related with export performance.

Real Effective Exchange Rate: In the literature, it is acknowledged that depreciation of the real effective exchange rate has positive contributions for increased exports while real appreciation of the exchange rate is generally associated with a slowdown in exports. Thus, the importance of maintaining a realistic real exchange rate is being propagated as a policy prescription to ensure the competitiveness of exports in the world market (Prasad, 1992). Index of trade weighted real effective exchange rate is included in the present study, to empirically test the relationship between this variable and the level of exports. The expected sign of this variable is positive.

Real GDP of Importing Countries: Real GDP of importing countries representing world demand for exports has been considered as an autonomous factor affecting exports from developing countries. There is little that the government can do to influence the world demand (Goldar, 1989). Rather, it is argued, by orienting the export strategy to those products and markets in which the growth in demand is relatively faster, could countries improve their export performance. In view of this, trade weighted real GDP of importing countries is included in the present study just to identify the direction of influence of this variable on Ethiopia's export performance. Normally, this variable is expected positively related with the volume of exports.

Real Private Sector Credit: The inclusion of real private sector credit in the export determination model is based on the premise that improved access to export finance

will have a positive contribution to export growth. Infact, lack of access to pre- and post shipment export finance was reported as one of the fundamental constraints on export growth and diversification in Ethiopia.

The export determination model could thus be specified in log-linear form as follows:

$$\text{Log}(RX)_t = B_0 + B_1 * \text{Log}(\text{RealGDP})_t + B_2 * \text{Log}(\text{RPCONS})_t + B_3 * \text{Log}(\text{RealWGDP})_t + B_4 * \text{Log}(\text{REER})_t + B_5 * \text{Log}(\text{RPSC})_t + U_t$$

Where,

RX_t = Real exports at time t

RealGDP_t = The country's Real GDP at time t

RPCONS_t = Real private consumption at time t

RealWGDP_t = Trade weighted real GDP of importing countries at time t

REER_t = Trade weighted real effective exchange rate index at time t

RPSC_t = Real Private Sector Credit

U_t = The error term

7. EMPIRICAL RESULTS

a) Test for Stationarity

The Augmented Dickey-Fuller (ADF) test is employed to test the stationarity of the variables in the model. As summarized in the Table below all the variables except Real World GDP are non-stationary at levels since the critical value is greater than the computed values for the variables. Rather real GDP (realGDP), real exchange rate (REER), Real Private Consumption (RPCONS), real exports (RX) and real private sector credit (RPSC) are characterized by I(1) process, implying they are stationary at their first difference.

Table 5:- ADF Tests for Unit Roots

Variable/Lag	Test on levels			Test on first Difference		
	0	1	2	0	1	2
Log(RealGDP)	0.829	0.830	1.909	-4.971**	-5.734**	-2.721
Log(REER)	-1.039	-1.311	-1.025	-4.446**	-3.942**	-2.819
Log(RealWGDP)	-3.777**	-1.895	-2.506	-2.582	-2.973*	-2.406
Log(RPCONS)	-0.506	0.004	0.310	-7.097**	-5.086**	-3.789**
Log(RX)	-1.832	-1.876	-2.028	-5.400**	-3.729**	-3.682*
Log(RPSC)	-0.485	-0.774	-0.925	-4.417**	-3.120*	-2.637
Critical Values	5% = -2.966, 1%=-3.675; constant included			5% = -2.971, 1%=-3.685; constant included		

** Significant at 1%

* Significant at 5%

b) Test for Co-integration

The next procedure is test for cointegration, i.e. to check whether the linear combination of the variables is stationary or not. In this study the Engle-Granger two-step procedure was employed to test for the existence of cointegration. First, we need to estimate the long-run model at levels and save the residual (the ECM term). Then we need to apply ADF test on the ECM term. If the ECM term is found to be stationary, the variables are considered cointegrated and proceed with the estimation of the model using Error-Correction Method.

The ECM term generated from the estimation of the long-run export determination model incorporating real GDP (RealGDP), real exchange rate (REER), real world GDP (RealWGDP), real private consumption (RPCONS) and real private sector credit (RPSC) fundamentals is found to be stationary at 5 percent. This shows that the long-run export determinants are co-integrated.

c) Long-run relationship

The estimation of the long-run model reveals that real exchange rate and real private sector credit are the positive determinants of the country's exports while real private consumption representing domestic demand pressure is found negatively related with the country's export performance. All the three determinants are significant at 10% level. Although statistically insignificant, real GDP and real World GDP are positively related with real exports, as expected.

The fact that real exchange rate is a significant determinant of the country's export imply that enhanced competitiveness through strict quality control as well as through a shift in the structure of both production and trade towards products with higher income elasticity of demand (manufactures) is a valid option in the long-run.

$$\begin{aligned} \text{Log}(RX) = & 6.275 + 1.552*\text{Log}(\text{RealGDP}) + 0.645*\text{Log}(\text{REER}) \\ & (1.149) \quad (1.508) \quad (1.753) \\ & + 0.492*\text{Log}(\text{RealWGDP}) - 2.883*\text{Log}(\text{RPCONS}) + 0.347*\text{Log}(\text{RPSC}) \\ & (1.388) \quad (-1.907) \quad (1.907) \end{aligned}$$

$$R^2 = 0.655, \sigma = 0.292, DW = 0.74, F(5,26) = 9.894(0.0000)$$

d) Short-run Dynamics

As summarized in the following equation, real GDP, real private consumption and real private sector credit are the significant determinants of the country's exports in the

geographic diversification of export was added in to the agenda during the Third Five-Year Development Plan (1968-1973).

Export diversification was also one of the agendas of the Ten Years Perspective Plan of the Dergue Regime. By emphasizing the role of state owned export companies, the plan aimed to achieve geographic diversification towards socialist economies and neighbouring African countries as well as diversification towards manufactures.

The economic policy of the Transitional Government of Ethiopian acknowledge the importance of export diversification along a free market path and the issue of export diversification is explicitly stated in the current Agricultural Development Led Industrialization Strategy as well as the accompanying Export Development Strategy of the government. Concrete steps (measures) have been taken by the government in this respect including, streamlining of export licensing procedures, liberalization of the foreign exchange market, export tax rebate, the promulgation of an Export Duty Incentives Scheme, the introduction of an export credit guarantee and foreign exchange retention schemes.

Looked from a historical perspective, the export structure was mono-cultural and the export performance was unsatisfactory as evidenced by the relatively lower export/GDP ratio and the declining share of exports in import financing. The export/GDP ratio has declined from the 1970/71 - 1973/74 average level of 7.1 percent to 6.8 percent in 1974/75 - 1990/91 and 6.5 percent in 1991/92 – 2002/03. Also, the share of export in import financing has contracted from 88.5 percent in the 1970/71 - 1973/74 period to 54.2 percent and 30.6 percent in 1974/75 - 1990/91 and 1991/92 – 2002/03, respectively.

Over the 33 year period, covered by the present study, coffee was the dominant export commodity accounting for about 56.4 percent of the country's total export, followed by hides and skins, oilseeds, pulses and chat. The export structure was also characterized by greater market concentration. As the statistics summarized in the paper revealed, six countries, namely Germany, U.S.A, Japan, Saudi Arabia, Djibouti and Italy, accounted for about 67.3 percent of the country's export market, on the average, during the review period.

As states at the outset, the main objective of the paper was model-based identification of the determinants of the country's exports thereby highlighting possible intervention areas for export growth and diversification. In this respect, a model incorporating, real GDP, real exchange rate, real private consumption, real world GDP and real private sector credit was estimated based on ECM procedure. The

estimation of the model revealed that real exchange rate and real private sector credit are the positive and significant determinant of the country's exports in the long run. Consistent with expectation, real GDP and real private sector credit were found to be positively and significantly related with the country's exports in the short run while negative and significant relationship was reported in the case of real private consumption.

8.2. Policy Implications

Based on the findings of this study the following policy implications may be drawn.

- The continuing commodity and market concentration as well as the limited contribution of the export sector to the country's GDP and in import financing do highlight the need for an aggressive export diversification endeavour. In these respect, active participation in international trade and investment fairs, organizing officially sponsored trade missions, providing targeted and concrete export support services, undertaking product specific export market research, concerted popularization and the like activities should be given due attention.
- The fact that real exchange rate is a significant determinant of the country's export in the long run imply that enhanced competitiveness through strict quality control as well as a shift in the structure of production and trade towards income elastic products such as manufacturers is indispensable in the longer time horizon. So, the NBE should go on with the exchange rate liberalization efforts, which has been in effect since October 1992 and exporters should be quality and quantity responsive so as to exploit the opportunity created by the exchange rate reform.
- On the other hand, the insignificant real world GDP variable in the short-run model may signify the possibility of horizontal diversification (diversification within agricultural exports) for a short period of time. Thus, efforts should be exerted to identify the specific products to which the country should diversify. In this respect, diversification into horticultural and flower products may be considered.
- The negative and significant real private consumption coefficient in the short-run model could signify the importance of implementing a cautious domestic demand management policy such as optimum credit delivery, relatively higher tax on domestic sales of exportable products, etc.

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