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Prospects for Export Diversification in Ethiopia

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Abstract

This paper tries to assess the prospects for export diversification in Ethiopia by empirically investigating the main determinants of the country's exports, on the one hand, and by highlighting the opportunities that are available both at home and abroad including the challenges that the country's export sector is facing in today's globalizing and integrated world, on the other. The ECM- based estimation of the export determination model revealed that real exchange rate, real private sector credit and real private consumption are the significant determinants of the country's exports in the long-run. In the short-run, the main export determinants include real GDP, real private sector credit and real private consumption.

The paper stressed the existence of promising opportunities for export diversification in the country considering the promulgated export development strategy, export support institutions, the export specific incentives in the pipeline, e-commerce possibilities and tariff free market access possibilities under AGOA, to mention some. It also highlighted the importance of becoming information and technology oriented and enhancing flexibility to meet the requirements of the market in terms of quality and product differentiation so as to withstand the ever-increasing external competition.

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1. Introduction

Motivated by the desire to spread risks, raising capacity utilization and increasing total export proceeds, export diversification has been the concern of most developing countries including Ethiopia. Despite such a concern, however, very few developing countries in East and South East Asia (such as South Korea, Taiwan, Hong Kong, Singapore, Malaysia and Thailand) as well as developing America (such as Brazil, Argentina and Mexico) have actually managed to achieve a diversified export structure with greater volume of manufactures.

The overall performance of Africa in terms of export diversification has been far from satisfactory and most countries continued to be totally dependent on a few traditional exports. As argued by the World Bank (2000), many African countries have lost market share in their traditional exports while at the same time failing to achieve significant export diversification in the past 30 years. Such unsatisfactory performance given the region's huge potential for more diversified production and exports signify the existence of some constraints either on the supply or demand sides or both

In the case of Ethiopia, export diversification has been in the development plans for more than 40 years while the export structure remained fixed with greater concentration on few traditional exports such as coffee, hides and skins and oilseeds and pulses. These traditional exports accounted for 83 percent of the total export earnings of the country in 1970/71 and they are still dominant in the country's export structure accounting for about 70 percent of total exports in 1999/00, indicating the continuing concentration of the country's exports on few traditional exports and the vulnerability associated thereof.

The continuing export concentration 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, as this is important in assessing future prospects.

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.

It is such a consideration which motivated the present study on the determinants of Ethiopia's export performance by specifying export determination model (incorporating both demand and supply factors) and employing recent econometric techniques as well as relatively large sample, thus assessing future prospects for export diversification in the country. More specifically, the study is concerned with:

- Measuring export concentration (both commodity and geographic) and instability indices;
- Assessing the extent to which the country's export earnings fluctuations are associated with export concentration, i.e., to testify the desirability of export diversification in Ethiopia; and
- Modelling the determinants of the country's exports thereby gauging future prospects and identifying possible policy intervention areas for export growth and diversification.

The rest of the paper is organized as follows. First, the theoretical and empirical literature on export diversification is summarized in chapter 2 followed by a review of Ethiopia's export diversification policies in chapter 3. Chapter 4 presents an assessment of the structure and performance of the export sector while data and methodology and empirical results are summarized in chapters 5 and 6, respectively. After assessing the export diversification opportunities and challenges in chapter 7, the paper ends by presenting the summary and policy implications of the study in the last Chapter.

2. Literature Review

2.1 Theoretical Literature

2.1.1 Arguments for Export Diversification

The traditional argument for export diversification is based on its role in reducing export earnings instability caused by cyclical fluctuation in international commodity prices. The notion of commodity concentration and the inability to offset the fluctuation in the principal commodity exports by counter fluctuations and/or stability in the export of others has been at the center of the argument.

Wilson (1984, p.86) argued "when economies are dependent on just one export commodity, their foreign exchange position is frequently precarious." According to Massel (1964) concentration on a narrow range of export products is the source of fluctuations in export earnings. He cited Ghana and Sudan as examples of "one crop economies" dependent on cocoa, and cotton, respectively and argued for diversification to achieve greater degree of earnings stability.

In a similar line of reasoning Love (1983, p.787) argued:

"The more highly concentrated a country's exports, the lower is the probability that fluctuations in one direction in some of its exports will be offset by counter fluctuations or stability in others. Hence, the need for diversification which has tended to be equated with the expansion of manufactured exports."

One of the major events of the 1970's was the secular decline in the international price of primary commodities² and such considerable uncertainty has shaped the agenda of the fourth UNCTAD conference to concentrate on the stabilization of international commodity prices. It has also produced a theoretical interest and new arguments for export diversification based on dynamic comparative advantage. According to Ssemogerere, et.al (1994), the dynamic elements include demand and supply changes, industrial capability,

² In fact, Prebisch had been arguing in this line and for him the terms of trade of primary products had been declining over time due to exogenous factors. (Wilson 1984; Bo Sodersten et.al, 1994)

risk evasion, environmental considerations, debt problem and changes in commercial policies.

The new argument on the demand side is that exporters facing autonomous factors such as rising income and change in taste in importing countries have to diversify their exports towards income-elastic ones. The supply side argument is in terms of production structure adjustment to changes in production technology and input mix, better land utilization, the introduction of new skills, changes in the availability of imported inputs, in response to potential competitors, etc. The proposal is to diversify in to products with different price elasticity of supply thereby minimizing the risk of export earnings instability.

A related but important consideration in the literature is the positive relationship between export diversification and industrial capability. Since industrial capability enables product differentiation, a country can offer new products to the world market by varying packaging and label. Moreover, industrial production increases the competitiveness of export products by lowering unit costs (Ssemogerere. et.al., 1994).

Environmental considerations especially the preference of many developed countries towards organically grown agricultural products, encourage commodity exporting countries to diversify in to new organically grown products. Diversification is also justifiable on account of increased debt problem in many least developed countries (DeRosa, 1992). Ssemogerere et.al. (1994 p.21) argued, “If a country specializing in primary exports can not generate revenue to service its debt, it will be cut off from borrowing”.

2.1.2 Arguments against Export Diversification

In spite of the drive for export diversification, export pessimism³ had been dominant in the development literature and it has shaped the trade policies of countries to accommodate certain degree of protection. The pessimistic views revolve around the decline in the rate

³ Export Pessimism refers to the belief that developing countries can not successfully penetrate the market of the industrial countries.

of growth of demand for primary products in the industrial countries and an over supply of manufactured goods if many LDC's diversify at the same time (Panoutsopoulos, 1992). Cline (1982, p.81) argued, export-led growth "may break down if a large majority of developing countries seek to pursue it at the same time, because the resulting outpouring of manufactured exports might be more than western markets could absorb."

Considering the similarity in terms of factor endowments and the stage of industrial development, some academicians argued that the scope for market diversification by penetrating developing countries markets is very limited (Tecson, 1992). The other variant of export pessimism, as indicated in Sodersten Bo et.al (1994), is in terms of the provoked protectionist reactions by developed market economies if more rapid growth of LDC exports is going to happen, thus proposing import-substitution policies. There are other arguments that consider factor endowments as a limit on export diversification, highlighting the possible loss of welfare if production of non-traditional goods is expanded beyond the limit (Derosa, 1992).

Such pessimistic views had, however, been challenged in the development literature on account of increased exports of manufactured goods from some developing countries taking advantage of opportunities for product differentiation and economies of scale as well as their comparative advantage in labour intensive manufacturing. Proponents of the challenge include, among others, Panoutsopoulos (1992), Gunasekera (1992), and Tecson (1992).

2.1.3 Constraints on Successful Export Diversification

Despite the desirability of export diversification and the diversification efforts that have been exerted by most developing countries since the 1970's, the overall performance is reported to be unsatisfactory and as argued by Wilson (1984, p.86) "only a few developing countries have actually managed to achieve it to any substantial degree." While structuralists ascribe such a failure to supply bottlenecks in the developing world, others blame the difficult conditions in the industrial markets for the slow pace of diversification.

Henson et.al (2001, p.89), for instance, provide argument in support of the later. 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 relate 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.

2.2 Empirical Literature

2.2.1 Export Concentration and Export Earnings Instability

By measuring export earning instability as deviations from an estimated trend line and commodity and geographic concentration indices using Gini-Hirschman coefficient, Massel (1964) assessed the extent of association between export concentration and export earnings instability for a sample of 36 countries using a linear regression method. His result revealed the existence of positive and significant relationship between export earnings instability and commodity concentration indices while negative and insignificant relationship was recorded with respect to geographic concentration index. However, he

concluded that diversification policy should not be expected to lead to marked reduction in export earning fluctuations, as the measured partial correlation coefficient between export earnings instability and commodity concentration was very low (i.e. about 0.3).

Derosa (1992), on the other hand, used ordinary correlation analysis and multivariate principal component analysis⁴ in examining, among others, the association between commodity dependence, export earnings instability and export concentration for a sample of 42 developing countries. His correlation as well as principal component analysis results indicate the existence of a strong positive association between commodity dependence, export earnings instability and export concentration.

Michaely (1967) based his analysis of the association between commodity concentration and price fluctuations on rank correlation coefficients. By employing data for thirty-six countries, he found a rank correlation coefficient of 0.404 indicating the existence of weaker causal relationship between the index of export price fluctuations and the coefficient of commodity concentration of exports.

2.2.2 Determinants of Export Supply

In investigating the determinants of Egypt's export supply, Wilson (1984) found out 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 with out 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 out a positive and statistically significant coefficient for real effective exchange rate and OECD countries real GDP variables.

⁴ Multivariate principal component Analysis is one of the methodologies employed to arrive at the joint determination of the correlation variables. It basically enables the different variables to be grouped according to their degree of association with statistically independent third variables, termed "factors", that explain a substantial portion of total variation of the independent variables (Derosa, 1992, p.61).

Goldar (1989) identified the determinants of India's export performance in engineering products based on econometric analysis. His result suggests 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 out 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 Ethiopia

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 favor of industrial products (Imperial Government of Ethiopia, 1962).

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).

The World Bank (1987) 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 which hypothesized the existence of simultaneity between prices and quantities.

Tura (2002) 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 could be criticized from the point of view of recent trade theories that favor simultaneous treatment of demand and supply side factors in an export function.

3. Export Diversification Policies in Historical Perspective

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, 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, 1962).

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 objectives 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 neighboring 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 new economic policy and the associated structural adjustment programme a bunch of policy measures targeted at stimulating export growth and diversification have been enacted. Export licensing procedures were streamlined and the bureaucratic trade licensing chains were practically abandoned. The Birr was devalued by about 59 percent and the foreign exchange market was step-by-step liberalized. With the view of enhancing export competitiveness all taxes on exports (except coffee) and subsidies to parastatal exporting enterprises were abolished as of December 1992 and as of April 2001 exporters were waived from the 6.5 percent coffee export tax when coffee export price is below 105 US cents per pound for washed and below 70 US cents per pound for unwashed. An Export Trade Duty Incentives Scheme was introduced. In order to facilitate exporters access to bank credit thereby exploiting bona fide export orders and enhancing the competitiveness of our exporters in the international market, an export credit guarantee scheme was introduced since 1999. Foreign exchange retention scheme was introduced in order to encourage exporters. A legal base was created for the registration of external loan and suppliers' or foreign partners' credit.

4. The Structure and Performance of the Export Sector

4.1 Pre-1974/75

For the period 1970/71 - 1973/74, coffee was the dominant export commodity accounting for about 45.7 percent of the country's export earnings, on average. The export of oil seeds, pulses and hides and skins stood second, third and fourth during the same period, the share being 12.5 percent, 10.9 percent and 10.5 percent, respectively. Meat and meat products export accounted for about 3.2 percent while the share of '*chat*' export was very minimal (0.87 percent).

During the Imperial period most export business was undertaken by foreign-business men with a lot of under-invoicing. According to a study by the Ministry of Trade and Industry, about 68 percent of export sector investment was occupied by foreigners and the then

under-invoicing practice was wide spread hammering the reported export value during the period. In the four years period, prior to 1974/75, the average export value was around USD 201.4 million. The relatively better performance in 1972/73 and 1973/74 contributed for the higher (25.6 percent) average growth in real exports and the 7.1 percent average GDP contribution (Export/GDP ratio).

The major destination for Ethiopian export during this period was the U.S.A., occupying about 35.6 percent of the country's exports, on the average. Germany (8.8 percent), Italy (7.2 percent), Saudi Arabia (6.8 percent), Djibouti (6.6 percent) and Japan (6.5 percent) were the other important markets for Ethiopian exports. Export to Russia and Yugoslavia account for about 1.52 percent and 1.28 percent, respectively.

4.2 1974/75-1990/91

The 1974/75-1990/91 export structure was characterized by increased coffee and hides and skins export shares offsetting part of the significant slowdown in oilseeds and pulses export. During this period the coffee sector has received greater attention by the Government as evidenced by the establishment of both large state farms in potential coffee growing areas and the Government owned Ethiopian Coffee Marketing Corporation. This led to a jump in the value of coffee export from an average level of USD 85.8 million in pre-1974/75 period to USD 227.7 million and its share from the total value of exports went up from 45.7 percent to 61.6 percent in the period under review.

Another development during this period was the establishment of large tanneries in different parts of the country, explaining the improved export performance in this sector. In the period under review, hides and skins export share stood at 12.4 percent as opposed to its average level of 10.5 percent in 1970/71 - 1973/74 and this increased share put hides and skins as the second export earner exceeding that of oilseeds and pulses export. 'Chat' export has also strengthened during this period as its share increased from 0.87 percent in pre-1974/75 period to 2.2 percent.

The export shares of oilseeds and pulses had contracted from the pre-1974/75 respective average level of 12.5 percent and 10.9 percent to 3.3 percent and 4.3 percent in the period under consideration. A slowdown was also registered in the export of meat and meat products as its share went-down to 0.7 percent from 3.2 percent in the 1970/71 - 1973/74 period.

Such a significant decline in the export shares of these products had a slowing down impact on the country's overall export performance putting the average export growth rate at 1.3 percent. The export/GDP ratio has also contracted to 6.8 percent from 7.1 percent in 1970/71 - 1973/74 period.

Although its market share fallen from the pre-1974/75 average level of 35.6 percent to 19.7 percent, the U.S.A. was still the major destination for Ethiopian export during this period. Other export markets, in order of their export share, include Germany (18.1 percent), Japan (9 percent), Saudi Arabia (7.7 percent), Italy (7.2 percent) and Djibouti (6.9 percent). Benefiting from the then bilateral trade agreements, export to Russia and Yugoslavia account for about 3.6 percent and 1.5 percent, as opposed to the pre-1974/75 level of 1.5 percent and 1.3 percent, respectively. France appeared to be an important market for Ethiopian products as its market share increased from the pre-1974/75 level of 2.9 percent to 4.2 percent.

4.3 Post- 1990/91

The year 1991/92 was the worst export performance year as depicted by the significant fall in exports (real export growth rate was -44.4 percent) and the lowest ever recorded (1.53 percent) export/GDP ratio. In fact, such a declining trend has started in 1989/90 following the intensified civil war during that period.

The change of government and the restoration of peace, the introduction of market oriented economic policy and the accompanied economic reform program has enabled to reverse such a deteriorating export performance. As a result, real export growth rate has turned positive and stood at 44.6 percent in 1992/93, 10.5 percent in 1993/94 and 84.5

percent in 1994/95. A pick-up was also recorded in the export/GDP ratio, which increased to 3.6 percent, 5.0 percent and 8.4 percent in 1992/93, 1993/94 and 1994/95, respectively.

In subsequent years, the export performance as depicted by the export growth rate and export/GDP ratio was not stable. For instance, in 1995/96 the export growth rate was negative 9.0 percent and the export/GDP growth rate was 6.87 percent as opposed to the preceding year level of positive 84.5 percent and 8.4 percent, respectively. Such deteriorating export performance could be ascribed to the bad weather condition and the associated drought during the year. The significant slump in the world coffee price and the Asian financial crisis were the major factors for the 1998/99 exports slow down (-19.5 percent export growth rate and 7.5 percent export/GDP ratio).

Overall, the export sector has registered a recovery in the post 1990/91 period as depicted by the 9.6 percent export growth rate. The average export/GDP ratio stood at 6.7 percent, a level slightly lower than the 1974/75 - 1990/91 period.

Coffee was still the dominant export commodity accounting for about 58.5 percent of the country's exports followed by hides and skins (12.8 percent), chat (8.7 percent), oilseeds (4.1 percent) and pulses (2.6 percent). Meat and meat products export share has gone down to 0.4 percent from the 1974/75 - 1990/91 average level of 0.67 percent.

The U.S.A.'s market share went down to 6.2 percent from the preceding period average level of 19.7 percent thus leaving its leading place to Germany, which has become an important market for Ethiopian products. The share of Germany from the total export of the country accounts for about 20.4 percent, a level up from the preceding period average level of 18.1 percent. Japan (13.7 percent), Djibouti (9.6 percent), Saudi Arabia (8.6 percent) and Italy (7.9 percent) are the other important markets for Ethiopian exports. The market shares Russia and Yugoslavia had fallen to 0.02 percent and 0.04 percent, respectively. The separation of the Soviet Union into independent states, the emergence of independent states from the unified Yugoslavia and the associated difficulty in the

implementation of the former trade agreements may partly explain such a fall in the market share of Russia and Yugoslavia.

4.4. Overall Export Performance

The overall performance of the export sector was unsatisfactory during 1970/71 – 2001/02 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 6.7 percent in 1991/92 – 2001/02. 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 32.8 percent in 1991/92 – 2001/02.

Over the 32-year period, coffee was the dominant export commodity accounting for about 58.6 percent of the country's total exports, on average. Hides and skins was the major non-coffee export commodity accounting for 12.3 percent of the country's exports followed by oilseeds (4.73 percent), pulses (4.54 percent) and chat (4.23 percent). The main markets for Ethiopian exports were Germany, U.S.A, Japan, Saudi Arabia, Djibouti and Italy accounting for about 17.7 percent, 17 percent, 10.3 percent, 7.91 percent, 7.78 percent and 7.43 percent, respectively, on the average.

Table 1: Average Value of Exports, Export/GDP Ratio, Export Growth Rate and Export/Import Ratio

Period	Total Export (MIn USD)	Coffee Export (MIn USD)	GDP (MIn USD)	Export/GDP Ratio	Coffee/GDP Ratio	Export Growth Rate	Export/Import Ratio
1970/71-1973/74	201.40	85.83	2819.37	7.06	3.06	22.51	88.51
1974/75-1990/91	364.55	227.70	5678.87	6.82	4.24	1.28	54.51
1991/92-2001/02	415.97	232.37	6451.53	6.69	3.74	9.61	32.82
Over all Average	361.83	211.58	5587.03	6.81	3.92	6.59	51.30

Table 2: Average Export Share of Selected Commodities

Period	Coffee	Oil Seeds	Hides & Skins	Pulses	Meat and Meat Prdts.	Fruits & Vegt.	Chat
1970/71-1973/74	45.70	12.52	10.50	10.93	3.19	1.92	0.87
1974/74-1990/91	61.64	3.29	12.43	4.27	0.67	1.01	2.16
1991/92-2001/02	58.53	4.11	12.85	2.62	0.41	1.10	8.66
Over all Average	58.58	4.73	12.33	4.54	0.90	1.15	4.23

5. Data and Methodology

5.1 Sources of Data

Secondary data is employed in the present study for the period 1970/71 - 1999/00 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.

5.2 Measuring Concentration and Instability Indices

5.2.1 Commodity Concentration Index

The degree of commodity concentration is measured by the Gini-Hirschman coefficient given by:

$$C_x = 100 \sqrt{\sum_{i=1}^k \left(\frac{x_i}{x}\right)^2}$$

Where C_x = Commodity Concentration Index;

X_i = The value of exports of commodity i to the rest of the world in the reference period;

X = The total value of the country's exports to the rest of the world in the same period; and

k = total number of commodities exported.

The value of C_x depends on the commodity classification scheme as different classifications are expected to produce varied results. Massell (1964), argued that, the value of C_x will be higher, the greater the level of aggregation and the higher the number of commodities within a single large group.

As indicated by Michaely (1967), the other serious shortcoming of the method is the consideration of commodities as different from each other disregarding their close substitutability. The more close substitutes are defined in different commodity groups and the more evenly distributed is the country's exports, the lesser will the coefficient of concentration be. Thus, it is important to have an appropriate commodity classification scheme and higher level of dis-aggregation in measuring commodity concentration.

In Ethiopia, the Harmonized System (HS) coding method is being used by the Customs Authority to classify export commodities, and export commodities are being reclassified by the National Bank of Ethiopia in to major commodity groups for publication in the Quarterly and Annual Bulletins.

In this study, the commodity concentration index is calculated using the above formula by employing the NBE data on exports by major commodity groups.

5.2.2 Geographic Concentration Index

The coefficient of geographic concentration of exports is equally important in the analysis of the extent of export concentration and the prospects for diversification. This is because of the maintained hypothesis that commodity concentration and geographic concentration are highly correlated. However, the sign of the correlation and the order of causation has been an empirical issue.

While some researchers argued for the existence of negative correlation between the two, others go for positive correlation with variation in the order of causation (commodity concentration causing geographic concentration or vice versa). For Michaely (1967), for instance, their exist a positive correlation between the two forms of concentration, the

causation coming from the geographic concentration of exports i.e. the stronger the geographic concentration of exports, the higher will the commodity concentration be.

Customarily, the geographic concentration of exports is represented by G_x and computed

$$G_x = 100 \sqrt{\sum_{s=1}^m \left(\frac{X_s}{X} \right)^2}$$

using the following formula:

Where X_s stands for the total value of exports to country S

X is the total value of the country's exports to the rest of the world

5.2.3 *Measuring Export Instability Index*

Export earnings instability is commonly defined as a short-term fluctuation around a trend and can be represented by the standard deviation of the residuals from the trend. By fitting a regression line to export earnings expressed as a function of time, i.e. $X_t = B_0 + B_1t$ where X_t = export earnings, t = time and B 's estimated coefficients, the standard error of the estimate divided by the mean of the observation measures the trend-corrected

$$I = \frac{\sqrt{\frac{\sum (u_t)^2}{n}}}{\bar{X}}$$

instability index (I). Thus, we can write the index as:

where: $u_t = X_t - (B_0 + B_1t)$

n = number of years

$$\bar{X} = \frac{\sum x}{n}$$

Since this measure is independent of the rate of growth of the country's exports (eliminates trend), it can be employed to arrive at reasonable index of export instability.

Alternatively it can be measured as the average of absolute values of annual deviations from a five-year moving average, defined in symbol as.

$$I = \left(\frac{100}{n - 4} \right) \sum_{t=3}^{n-2} \left[\frac{vt - \overline{vt}}{\overline{vt}} \right]$$

Where: vt = represents real exports in year t

\overline{vt} = represents the five year moving average of real exports

n = represents the number of observed years.

Export instability can also be measured by the coefficient of variation of exports. By calculating a centred five-year moving average of real exports over the data series as well as the standard deviation of the observations on which each of the moving averages was based, comparative export instability could be constructed for each year using the

$$CI_t = \frac{SD}{V}$$

coefficient of variation formula i.e.

Where CI_t = comparative export instability for year t

SD = standard deviation of the observations on which each of the moving averages was based

V = centered five-year moving average of real exports.

The latter approach, coefficient of variation based measure of export instability, is employed in this study since analysis of the time series behaviour of export instability and its association with the extent of concentration (both commodity and geographic) is one of the objectives of this study.

5.3 Model Specification

5.3.1 Export Instability Model

Empirical studies on export instability have indicated that a country with a large share of its export earnings coming from a single commodity will tend to suffer greater export instability than countries with diversified export structure. Export instability may also be associated with the geographic concentration of exports since higher geographic concentration may imply greater dependence on economic conditions in few countries and vulnerability to fluctuations in demand in any of these countries.

Massel (1964) carried out cross-country based regression analysis on the extent to which fluctuations of the country's exports earnings tend to be associated with concentration of the country's exports i.e. whether diversification is likely to provide a greatly increased measure of stability in export earnings. He used a linear regression model which expresses export instability as a function of commodity and geographic concentration indices, both expected to be positively related with export instability.

A more or less similar model, based on time series data, is employed in the present study to assess the desirability of export diversification in Ethiopia. Denoting $CompInst_t$ to represent comparative export instability for year t, the export instability model is specified as:

$$\text{Log}(CompInst)_t = B_0 + B_1 * \text{log}(CompInst)_{t-1} + B_2 * \text{log}(ComIndex)_t + B_3 * \text{log}(GeoIndex)_t + B_4 * \text{Log}(cofprinst)_{t-1} + U_t$$

Where $ComIndex_t$ = Commodity concentration index at time t

$GeoIndex_t$ = Geographic concentration index at time t

$Cofprinst_{t-1}$ = Coffee export price instability at time t-1

U_t = The error term

5.3.2 Export Determination Model

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 one of the objectives 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 one period lagged real export, 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. In fact, 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:

$$\text{Log}(RX)_t = B_0 + B_1 * \text{log}(RX)_{t-1} + B_2 * \text{Log}(\text{RealGDP})_t + B_3 * \text{LOG}(\text{RPCONS})_t + B_4 * \text{Log}(\text{RealWGDP})_t + B_5 * \text{Log}(\text{REER})_t + B_6 * \text{Log}(\text{RPSC}) + U_t$$

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

6. Empirical Results

6.1 On Concentration and Export Instability

6.1.1 High Commodity Concentration

The extent of commodity concentration as measured by the Gini-Hirschman coefficient stood at an average level of 62 percent for the last 32 years, indicating the mono-cultural nature of the country's export sector. As summarized in Table 3 below, coffee has been the dominant export commodity in Ethiopia accounting for about 58.6 percent of the country's export earning in 1970/71 and 37.7 percent in 2001/02. As a reflection of this, the computed commodity concentration index has not shown significant change between 1970/71 and 2001/02. Its level was 60.9 percent in 1970/71 and the computed index was still higher in 2001/02 (i.e. 45 percent).

6.1.2 High Geographic Concentration

The other measure of export concentration is the geographic concentration index. Although there is a noticeable improvement in securing new markets, the relatively higher geographic concentration index as summarized in Table 3 signify the importance of implementing an aggressive market penetration strategy.

The market (geographic) concentration ratio was 51.4 percent in 1970/71 and the effort to penetrate new markets in Easter Europe (through Bilateral trade agreements, especially in 1970/71 – 1980/81) and Middle East countries (through government organized trade missions after 1995/96) has contributed to the reduced (45.5 percent) concentration in 2001/02. On the average, the geographic concentration ratio stood at 39 percent for the last 32 years.

6.1.3 Significant Export Instability

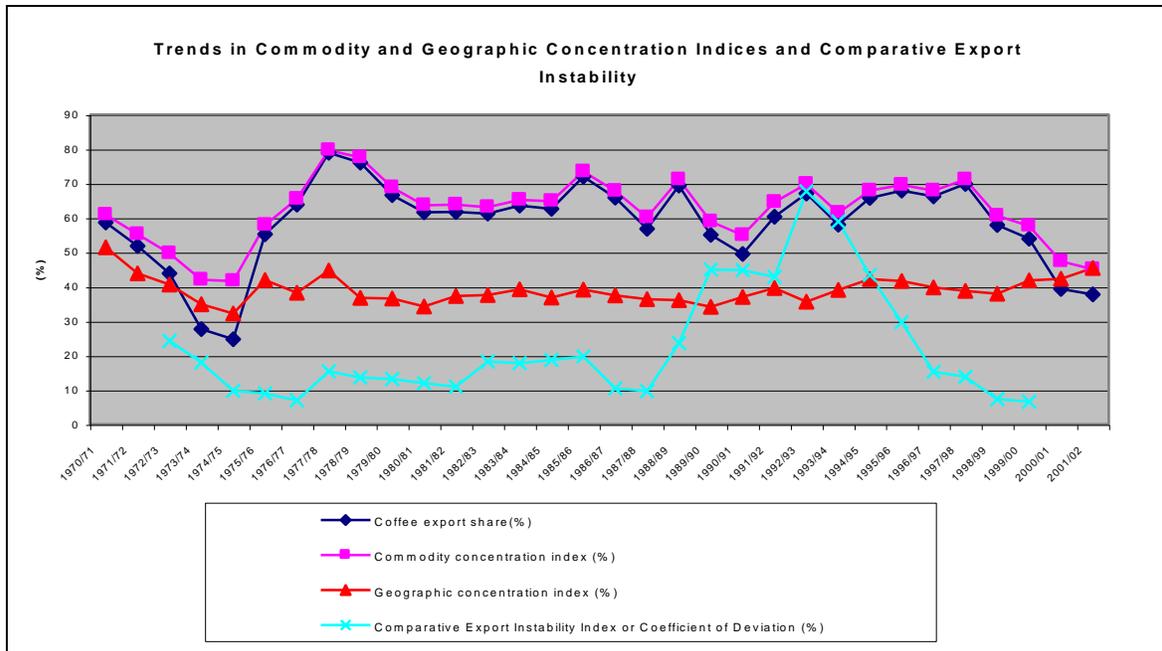
The yearly comparative export instability measured by the coefficient of variation of exports ranged from 6.53 percent in 1999/00 to 67.74 percent in 1992/93. Such a variation in the measured export instability may be ascribed to world market shocks in some years and policy-induced changes in others. For instance, the registered higher comparative

export instability in 1992/93 does reflect the surge in the Birr value of exports following the massive devaluation.

Table 3: Trends in Commodity and Geographic Concentration Indices as well as Comparative Export Instability

Year	Coffee export share (%)	Commodity concentration index (%)	Geographic concentration index (%)	Comparative Export Instability Index or Coefficient of Deviation (%)
1970/71	58.6	60.9	51.4	
1971/72	51.8	55.2	43.8	
1972/73	43.8	49.7	40.6	24.24
1973/74	27.7	42.0	34.9	17.99
1974/75	24.7	41.6	32.2	9.69
1975/76	55.2	57.9	41.9	9.00
1976/77	63.8	65.5	38.2	6.95
1977/78	78.9	79.6	44.7	15.31
1978/79	76.0	77.5	36.7	13.58
1979/80	66.6	68.8	36.5	13.16
1980/81	61.6	63.6	34.2	11.93
1981/82	61.7	63.8	37.3	10.93
1982/83	61.2	63.1	37.5	18.21
1983/84	63.5	65.2	39.2	17.79
1984/85	62.6	64.8	36.9	18.69
1985/86	72.0	73.4	39.1	19.66
1986/87	65.9	67.8	37.5	10.47
1987/88	56.8	60.1	36.4	9.58
1988/89	69.4	71.1	36.1	23.62
1989/90	55.0	58.9	34.1	44.91
1990/91	49.5	54.9	37.0	44.80
1991/92	60.3	64.6	39.6	42.79
1992/93	67.1	69.8	35.6	67.74
1993/94	58.0	61.4	39.0	58.94
1994/95	65.8	67.9	42.2	43.42
1995/96	67.9	69.6	41.6	29.68
1996/97	66.2	67.9	39.8	15.27
1997/98	69.8	71.1	38.8	13.76
1998/99	57.9	60.6	37.9	7.32
1999/00	53.9	57.6	41.8	6.53
2000/01	39.3	47.3	42.3	
2001/02	37.7	45.02	45.46	

N.B. Thirteen commodity groups and sixteen countries are included in the computation of the commodity and geographic concentration indices, respectively.



6.2 Export Instability Model

6.2.1 Test for Stationarity and cointegration

The Augmented Dickey-Fuller (ADF) test revealed that commodity concentration index (comindex), geographic concentration index (geindex) and coffee export price instability (cofprinst) variables are stationary at levels while the comparative instability index (compinst) variable is non-stationary. The test result summarized in the table below showed that comparative instability index variable is stationary at its first difference (i.e. it is characterized by I(1) process).

Table 4: ADF Tests for Unit Roots

Variable/Lag	Test on levels			Test on first difference		
	0	1	2	0	1	2
Log(Comindex)	-5.2172**	-5.5547**	-5.3461**	-5.3316**	-3.8479**	-2.6176
Log(Geindex)	-4.8780**	-3.3499*	-3.5560*	-9.2097**	-3.9274**	-4.3324**
Log(Compinst)	-1.2598	-1.7995	-1.8538	-3.8847**	-3.0190*	-2.6417
Log(cofprinst)	-2.4662	-3.9247**	-3.5543*	-3.0279*	-3.2103*	-3.4149*
Critical Values	5% = -2.985, 1% = -3.72; constant included			5% = -2.991, 1% = -3.734; constant included		

** Significant at 1%

* Significant at 5%

The ECM term generated from the estimation of the final long-run model incorporating the lagged value of coffee export price instability, the geographic concentration index and a trend variable is stationary at 1 percent significance level, thus indicating the existence of co-integration relationship between the long-run determinants of the country's export instability.

6.2.2 Long-run relationship

The estimation of the long-run model revealed that last year coffee export price instability has a significant effect on the current export instability of the country as depicted by the positive coefficient of cofprinst_{-1} variable. The geographic concentration index is found to be negatively related with export instability, indicating the possibility of smoothing out of export earning fluctuations in a geographically concentrated markets through some form of commodity agreement (price peg for example) between the exporting and importing countries. The alternative explanation for the negative sign of the geographic concentration coefficient is in terms of the change in the test of the population through time owing to quality goods. Contrary to expectations, the commodity concentration index variable is found negatively related with export instability. Hence, it is omitted from the long-run model.

$$\text{Log}(\text{compinst}) = 12.456 + 0.689 * \text{Log}(\text{cofprinst}_{-1}) - 3.465 * \text{Log}(\text{geoindex}) + 0.047 * \text{trend}$$

(2.087)	(3.080)	(-1.985)	(3.011)
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$$R^2 = 0.377, \sigma = 0.563, \text{DW} = 1.19, F(3,23) = 4.6346(0.0112)$$

6.2.3 Short-run dynamics

The ECM estimation result revealed that one year lagged comparative export instability and commodity concentration index are the significant determinants of the country's export instability in the short run. The coefficients of both variables are positive, as expected, and they are significant at 1 percent and 10 percent, respectively. The policy implication of this result is that any export instability in the preceding period as well as the extent of commodity concentration in the period under consideration has a significant

Table 5:- ADF Tests for Unit Roots

Variable/Lag	Test on levels			Test on first Difference		
	0	1	2	0	1	2
<i>Log(RealGDP)</i>	0.829	0.830	1.909	-4.971**	-5.734**	-2.721
<i>Log(REER)</i>	-1.039	-1.311	-1.025	-4.446**	-3.942**	-2.819
<i>Log(RealWGDP)</i>	-3.777**	-1.895	-2.506	-2.582	-2.973*	-2.406
<i>Log(RPCONS)</i>	-0.506	0.004	0.310	-7.097**	-5.086**	-3.789**
<i>Log(RX)</i>	-1.832	-1.876	-2.028	-5.400**	-3.729**	-3.682*
<i>Log(RPSC)</i>	-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%

6.3.2 Test for Co-integration

The next procedure is test for co-integration, 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 co-integration. 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 co-integrated 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.

6.3.3 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.

$$\begin{aligned} \text{Log}(RX) = & 6.275 + 1.552*\text{Log}(\text{RealGDP}) + 0.645*\text{Log}(\text{REER}) \\ & (1.149) \quad (1.508) \quad (1.753) \\ & + 0.492*\text{Log}(\text{RealWGDP}) - 2.883*\text{Log}(\text{RPCONS}) + 0.347*\text{Log}(\text{RPSC}) \\ & (1.388) \quad (-1.907) \quad (1.907) \\ R^2 = & 0.655, \sigma = 0.292, DW = 0.74, F(5,26) = 9.894(0.0000) \end{aligned}$$

6.3.4 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 short-run. Consistent with expectation, real GDP and real private sector credit are positively related with the country's exports while negative relation was found in the case of real private consumption. The negative and significant real private consumption coefficient had its own policy implication: We should have a proper domestic demand management policy in order to achieve greater credit expansion since increased domestic consumption of exportables have a dampening effect on the country's exports.

$$\begin{aligned} D(\log(RX)) = & 3.740*D(\text{Log}(\text{RealGDP})) + -2.914*D(\text{Log}(\text{RPCONS})) \\ & (3.658) \quad (-2.896) \\ & + 0.322*D(\text{Log}(\text{RPSC})) - 0.514*ECM_{-1} \\ & (2.113) \quad (-3.073) \\ R^2 = & 0.566, \sigma = 0.226, DW = 1.93 \\ ARI-2F(2,23) = & 0.10493 [0.9008], \\ ARCH 1F(1,23) = & 0.01366 [0.9080], \\ Normality \chi^2 = & 5.172 [0.0753], \\ Xi^2 F(8,16) = & 0.76509 [0.6377] \\ RESET F(1,24) = & 0.14434 [0.2413] \end{aligned}$$

In the estimation one period lagged real exports, real exchange rate and real world GDP were found to be insignificant and left out of the short-run dynamics model. The insignificant world GDP variable may signify the possibility of horizontal diversification (diversification with in agricultural exports) in the short-run. The ECM term was significant with about 51.4 percent adjustment of short-run shocks in the current period. Moreover, the model has passed all specification tests, except normality.

7. Opportunities and Challenges in Ethiopia's Export Diversification Endeavor

7.1 Opportunities

In addition to the conducive working environment created by the bunch of policy measures and the hitherto economic restructuring, the promulgation of an Export Development Strategy, the provision of institutional support, the export specific incentive schemes, E-Commerce, the World Trade Organization and the AGOA provision have created a promising opportunities for export diversification in the country. The COMESA Free Trade Area (FTA) is another opportunity for the country once it joined the arrangement.

7.1.1 The Export Development Strategy

Ethiopia's Export Development Strategy emanating from the overall economic development strategy of the country (ADLI) is designed with the objectives of sustaining the growth of agricultural production, generation of foreign exchange and promotion of internationally competitive industry. While recognizing the difficulty of avoiding heavy reliance on agricultural products with in a short period of time, the strategy consider the export of coffee, cotton, fruits and vegetables, livestock and livestock products the immediate concern since they have wider and stable foreign markets. However, 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.

7.1.2 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.

7.1.3 Export Incentive Schemes

7.1.3.1 Export Trade Duty Incentive Scheme

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

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.

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.

Bonded Manufacturing Warehouse: This is a duty-free importation scheme, which allows 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.

7.1.3.2 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.

7.1.3.3 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.

7.1.3.4 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.

7.1.4 E-commerce

Electronic commerce or e-commerce, which generally used to cover the "distribution, marketing, sale or delivery of goods and services by electronic means" is one of the great opportunities available to individuals/businesses engaged in international trade. Globalization and the wide spread use of the Internet has affected business to consumer (B

to C) trade since the number of individuals connected to the Internet is growing at unprecedented rate.

Through the Internet manufacturers and/or exporters in distant locations can offer their products or services on the website with information on product capabilities and benefits, content or components, prices, production schedules, delivery and payment conditions. This information allows trading partners as well as potential clients to gauge supply conditions thereby facilitating orders from the most competitive suppliers.

Internet use is being expanding and some Ethiopian exporters are undertaking their export business through E-commerce. By facilitating cost effective advertising and marketing E-commerce can offer ample opportunities in the country's export diversification endeavor.

7.1.5 The African Growth and Opportunity Act (AGOA)

The African Growth and Opportunity Act (AGOA), promulgated in May 2000, is part of the Trade and Development Act of the US government providing reforming African countries, with the most liberal access to the U.S. market. It also intends to promote trade and investment ties between the US and Sub-Saharan African Countries through the establishment of the US-Sub-Saharan Africa Trade and Economic Forum.

The eligibility requirement calls for market-based economies; the rule of law and political pluralism; the elimination of barriers to U.S. trade and investment; protection of intellectual property; efforts to combat corruption; policies to reduce poverty, increase the availability of health care and educational opportunities as well as the protection of human rights.

As of August 02/2001, the US government has confirmed that Ethiopia has satisfied the AGOA's requirements and may begin receiving textile and apparel benefits of the AGOA. Since the Act specifically allows textiles and apparel articles to be imported directly in to the United States free of duty and free of any quantitative limitations, it is a good opportunity for Ethiopia to develop its textile sector. Thus, investors engaged in the production and export of textile and apparel products should strive to exploit the

opportunity provided by AGOA. More specifically, they should make use of the special Rule of the Act for lesser Developed Beneficiary countries which maintain that countries with a per capita GNP under \$1,500 in 1998 will enjoy duty-free access for apparel made from fabric originating anywhere in the World until September 30, 2004.

7.1.6 The World Trade Organization (WTO)

The establishment of the World Trade Organization (WTO) as an international body dealing with international trade rules could facilitate trade among countries. By encouraging countries to enter into negotiations for the reduction of tariffs and for removal of other barriers to trade, the WTO is envisaged to create conditions of competition in the global market.

The major advantage of the WTO system to exporters is the security of market access. In trade in goods, the Uruguay round negotiations have enabled to bind the tariffs of almost all developed countries and a high proportion of those of the developing and transitional economies from further increases, thus ensuring improved market access. In services trade, on the other hand, countries have made commitments not to restrict access to service products and Foreign Service suppliers although there are no tariff binding arrangements.

Once countries join the WTO, they are obliged to ensure that their rules for determining dutiable value for customs purposes, for inspecting products to ascertain conformity to mandatory standards, or for the issue of import licenses, conform to the provisions of the relevant standards. This could provide a stable access to export markets thus contributing to export earnings stability (the major concern of a commodity exporting developing country).

7.1.7 The COMESA FTA

The COMESA FTA is a zero tariff intra-regional trade arrangement which is intended to open markets within the regional economic grouping for goods originating from member countries. This arrangement is believed to enhance both domestic and foreign competition thereby creating a conducive environment for attracting foreign investment. The increased

competition as well as the possibility of acquiring imported raw materials at a lesser cost would force the country to take aggressive export promotion measures in order to achieve increased exports of both traditional and non-traditional products.

7.2 Challenges

Globalization and the information age, increased trade liberalization following the establishment of the WTO, the strict sanitary and phytosanitary requirements, advances in technology, and the COMESA FTA have created a challenge in the international market. These developments have resulted, among others, in:

- ✓ Increased exposure to international competition; and
- ✓ Exposure to external shocks.

Thus, exporters have to take precautionary measures in this respect. They should be quality conscious through better packaging and labelling practices and strict sanitary and phytosanitary control. Also, the implementation of cost reducing methods of production (technology) is essential to fetch the increased global competition. On the government side, improvements in infrastructure, promotion of exporters associations, information provision (through the Export Promotion Agency), organization of trade missions and consolidation of export incentive schemes are of critical importance in an effort to combat the export challenge.

8. Summary and Policy Implications

8.1 Summary

Motivated by the desire to spread risks, raising capacity utilization and increasing total export proceeds, export diversification has been the concern of most developing countries including Ethiopia.

In Ethiopia, the concern over export diversification has started with the First Five-Year Development plan (1957-1961), which acknowledged the economic instability consequences of the dependence on two or three commodity. The concern was to achieve

a diversified structure of export by exploiting the untapped potential thus reducing the primary commodities dominance in the overall export. Such an objective was further strengthened in the Second Five Year Development plan (1962-1966) and 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 Ethiopia 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 6.7 percent in 1991/92 – 2001/02. 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 32.8 percent in 1974/75 - 1990/91 and 1991/92 – 2001/02, respectively.

Over the 32 year period, covered by the present study, coffee was the dominant export commodity accounting for about 58.6 percent of the country's total export, followed by

hides and skins, oilseeds, pulses and chat. As a reflection of this commodity dependence, the computed commodity concentration index based on the Gini-Hirshman coefficient stood at an average level of 62 percent for the last 32 years. The export structure was also characterized by greater market concentration as evidenced by the relatively higher (39 percent) geographic concentration index and the main markets for Ethiopian exports were Germany, U.S.A, Japan, Saudi Arabia, Djibouti and Italy.

By hypothesizing that such commodity and geographic concentration has certain implications on the country's export earning instability, an export instability model is estimated based on ECM technique. The estimation result revealed that geographic concentration index and one period lagged coffee export price instability are the significant determinants of the country's export instability in the long run. In the short-run, on the other hand, one period lagged export instability and the degree of commodity concentration are the significant determinants of export instability in the short-run, thus calling for export diversification efforts to smooth out year-to-year fluctuations in export earnings.

The other objective of the paper was model-based identification of the determinants of the country's exports thereby gauging future prospects. In this respect, a model incorporating, a one period lagged real export, 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.

The study highlighted the existence of promising prospects for export diversification given the conducive working environment created by the bunch of policy measures, the current Agricultural Development Led Industrialization strategy and the accompanying Export Development strategy, the coordinated institutional support, the export specific incentives,

E-commerce, the opportunities created by the World Trade Organization, the COMESA FTA and the AGOA provisions. It also acknowledged the existence of challenges such as increased exposure to international competition and exposure to external shocks associated with the globalization and liberalization of world trade.

8.2 Policy Implications

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

- ✓ The higher commodity and geographic concentration indices as well as the reported significant effect of coffee export price instability and commodity concentration on the country's export earning instability, the former in the long-run model and the later in the short run, could indicate the desirability of export diversification in Ethiopia.
- ✓ 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.

- ✓ The policy induced changes, the possibility of using E-commerce and the opportunities created by the World Trade Organization, the COMESA FTA and the AGOA provisions, could tell the existence of a promising prospect for export diversification. This calls for a concerted popularization effort on the part of the government.

- ✓ The paper highlighted the possibility of exposure to international competition and external shock in an export diversification endeavour. Thus, exporters should be information and technology oriented and be flexible to meet the requirements of the market in terms of quality and quantity (product differentiation).

References

- Beng Gan Wee (1992), Industrialization and the Export of Malaysian Manufacturers, in Hughes Helen (eds.), *The Dangers of Export Pessimism*, International Center for Economic growth, U.S.A, pp. 202-223.
- Cline, W. (1982), "Can the East Asian Model of Development be Generalized?", in *World Development*, Vol.10, No.2, pp.81-90.
- Dender Wolde Mariam (1996), *Export Promotion and Diversification Policy and Policy Options*, Project GCP/ETH/053/NET, Adopting Food and Agricultural Policies to a Changing External Trade Environment, Report 4B, Addis Ababa.
- Derosa Dean A. (1992), Commodity Dependence and Export Diversification: Some Empirical Evidence Bearing on Proposals to Diversify LDC Exports, in *East African Economic Review*, PP.54-74.
- _____ (1992), Increasing Export Diversification in Commodity Exporting Countries: A Theoretical Analysis, in *IMF Staff Papers*, Vol.39, No.3, PP.572-595.
- Dodaro Santo (1991), Comparative Advantage, Trade and Growth: Export-Led Growth Revisited, in *World Development*, Vol.19, No.9, PP.1153-1165.
- Federal Democratic Republic of Ethiopia (2000), *Interim Poverty Reduction Strategy Paper 2000/01 - 2002/03*, Addis Ababa.
- Goldar B. (1989), Determinants of India's Export Performance in Engineering Products (1960-79), in *The Developing Economies*, Vol.27, No.1, pp. 3-18.
- Goldstein, Morris and Khan, Moshin, S. (1985), Income and Price Effects in Foreign Trade, in Jones, R. and Kenen P. (eds), *Hand Book of International Economics*, Volume 2, North-Holland.
- Gunasekera D. (1992), Inter-Industry Trade in Manufactures in East Asian Newly Industrializing Economies, in Hughes Helen (eds.), *ibid*, pp. 46-77.
- Henson S. and Loader R. (2001), Barriers to Agricultural Exports from Developing Countries: The Role of Sanitary and Phytosanitary Requirements, in *World Development*, Vol.29, No.1, P. 85-102.
- IBRD/IMF (1969), *The Problem of Stabilization of Prices of Primary Products*, A Joint Staff Study (Part I), Washington, D.C.

- Imperial Government of Ethiopia (1962), The First Five-Year Development Plan (1957-1961), Addis Ababa.
- _____ (1962), The Second Five-Year Development Plan (1962-1966), Addis Ababa.
- _____ (1968), The Third Five-Year Development Plan (1968-1973), Addis Ababa.
- Love James (1983), Concentration, Diversification and Earnings Instability: Some Evidence on Developing Countries' Exports of Manufactures and Primary Products, in *World Development*, Vol.11, No.9, pp. 787-793.
- Massel Benton F. (1964), Export Concentration and Fluctuations in Export Earnings: A Cross Section Analysis, in *American Economic Review*, Vol.54, PP.48-63.
- _____ (1970), Export Instability and Economic Structure, *ibid*, Vol.60, PP.618-630.
- Michaely M. (1967), *Concentration in International Trade*, Second Printing, North Holland Publishing Company, Amsterdam
- Ministry of Trade and Industry (1998), *Export Development Strategy*, Addis Ababa.
- National Bank of Ethiopia, Directive for the Retention and Utilization of Export Earnings and Inward Remittances, Directive No. FXD/11/1998.
- _____, Amendment to Registration of External Loan and Suppliers' or Foreign Partners' credit, Directive No. REL/005/2002.
- _____, Quarterly Bulletins and Annual Reports, Various Issues.
- _____, Revised Directive for the Establishment and Operation of Export Credit Guarantee Scheme, Revised Directive No. ERD/003/2001.
- Negareth Gazeta, Proclamation No. 249/2001.
- Panoutsopoulos Vasilis (1992), The Growth of Exports from Developing Countries: Export Pessimism and Reality, in Hughes Helen (eds.), *ibid*, pp.9-45.
- Polume M. Samson (1992), Development Patterns and Export Instability in Papua New Guinea, in Hughes Helen (eds.), *ibid*, pp. 304-321.
- Prasad A. (1992), A Respecification of the Export Demand and Supply Functions for India, in Hughes Helen (eds.), *ibid*, pp. 322-333.
- Provisional Military Government of Socialist Ethiopia (1985), *The Ten Years Perspective Plan (1985-1994)*, In Amharic, Addis Ababa.

- Sodersten, Bo and Reed, Geoffrey (1994), *International Economics*, Third Edition, Macmillan Press Ltd., London, pp.374-435.
- Ssemogerere G.N. and Kasekende L.A. (1994), *Constraints to the Development and Diversification of Non-Traditional Exports in Uganda (1981-90)*, African Economic Research Consortium, Research Paper 28, Nairobi.
- Tecson G.R. (1992), *Markets for Philippine Manufactured Exports*, in Hughes Helen (eds.), *ibid*, pp.277-303.
- Transitional Government of Ethiopia (1991), *Ethiopia's Economic Policy During the Transition Period (An Official Translation)*, Addis Ababa.
- Tura Kebede (2002), *A Glance at the Ethiopian Export Sector: Problems and Performances*, in *Birritu of the NBE*, No. 79, pp. 5-18.
- Wilson R. (1984), *Egypt's Export Diversification: Benefits and Constraints*, in *The Developing Economies*, Vo.22, No.1, pp. 86-101.
- World Bank (2000), *Can Africa Claim the 21st Century?*, Washington, D.C. 20433, U.S.A.
- _____ (1987) *Ethiopia: An Export Action Program*, Eastern and Southern Africa Regional Office, Report No. 6432-ET.
- Yuan Lee Tsao (1992), *Singapore: The Role of the Government in Export Success*, in Hughes Helen (eds.), *ibid*, pp.224-249.