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# Export Trade Incentives and Export Growth Nexus: Evidence from Ethiopia

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## Authors' contributions

*The corresponding author ABF guided the study by commenting on its structure and methodology. He also guided the literature review, statistical analysis and provided a direction in organizing the findings. While the first draft manuscript was prepared by the author GBT, the paper was prepared for publication in a journal by the author ABF. All authors read and approved the final manuscript.*

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## ABSTRACT

**Aims:** Export trade is often considered as an engine of economic growth, and this led to attempts by governments in many countries towards promoting the export sector. The Ethiopian government has been taking measures to promote the export sector by introducing comprehensive financial and fiscal incentive schemes since 2002. Hence, this paper attempts to examine the type and trend of export incentive schemes and their effect on export growth in Ethiopia.

**Study Design:** This is an explanatory study trying to shed light on whether and to what extent financial and fiscal incentives provided by the government have led to export growth in the country using time series data on financial incentives, fiscal incentives, export volume, export value, export diversification, GDP growth rate, and real effective exchange rate covering the period 2003 to 2011.

**Methodology:** The data were collected from Ethiopian Revenue and Customs Authority (ERCA), Ministry of Finance and Economic Development (MoFED), National Development Research Institute (NDRI) and National bank of Ethiopia (NBE). Three stage analysis has been conducted including graphical analysis of trends of export incentive schemes and export growth, examination of correlation among variables in the data set, and finally, a time series econometric analysis.

**Results:** The study revealed that there are improvements in the export sector in terms of

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export value, destination and diversification despite that the share of manufactured exports is still marginal. The study also revealed that while the incentives are positively correlated with export value and export volume, they are negatively correlated with export concentration. In addition, the time series econometric analysis reveals that financial and fiscal incentives have a statistically significant impact on export growth both in the short run and long run.

**Conclusion:** Incentives to the export sector have robustly improved export value and volume. However, it has been noted that manufactured export is still insignificant which implies that the incentives have played only a partial role in boosting export earnings of the country.

*Keywords: Ethiopia; exports; export incentives; export growth; fiscal incentives; financial incentives.*

## 1. INTRODUCTION

Owing to a strong link between rapid economic growth and exporting, countries attempted to accelerate economic growth by designing Export-Led Growth strategy [1]. For instance, a robust economic performance of the "Four Asian Tigers"<sup>1</sup> in the second half of the 20th century has been largely attributed to the performance of the external sector where the export sector was given a greater emphasis. Over the past two decades, developing countries have progressively increased their share in global trade from just less than a quarter to about a third [2].

Having realized the role of export in driving economic growth and hence development, the Ethiopian government has been endeavoring to create an environment conducive for expansion of the export sector. The government established export trade incentive schemes<sup>2</sup> through proclamation No.249/2001 (later amended by proclamation No. 543/2007) and issued various directives on the establishment of different financial incentive schemes<sup>3</sup>. It provided a lot of support in the form of financial and fiscal incentives. For instance, the fiscal incentives provided have grown from ETB 176mill in 2003 to ETB 1.12bill in 2011, and financial incentives reached ETB 1.215bill in 2008 from ETB 362mill in 2005.

This led to changes in the export sector performance. For instance, the real value of export earnings increased from ETB 5 billion in 1973-1978 to ETB 39.7 billion from 2000/1-2006/7. In terms of diversification, although coffee is still the dominant export item, the share of non-coffee agricultural exports and major manufacturing export commodities (leather and leather products; textile; and agro processing products) has increased remarkably and reached 63.7% during the same period. Furthermore, the export destination countries increased from 68 in 1997 to 126 in 2011.

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<sup>1</sup> These are South Korea, Taiwan, Hong Kong and Singapore

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<sup>2</sup> These incentive schemes are fiscal export trade incentives which include Duty Drawback scheme, Voucher scheme and Manufacturing under Bonded warehouses scheme.

<sup>3</sup> Financial Incentives include Export Credit Guarantee scheme (Directive No.SBB/33/2002, amended latter by Directive No.SBB/41/2007,) Foreign Credit Scheme (Directive No.REL/005/2002) & Retention of Export proceed Earnings scheme (Directive No.FXD/11/1998).

Notwithstanding the foregoing facts, the export performance of the country is still low as compared to other African countries [2] & [3]. Export goods in Ethiopia are about nearly 7% of GDP compared to an average of 30% of GDP in Sub Saharan Africa. Besides, exports per capita is still low; only \$24 in Ethiopia compared to \$200 in sub Saharan Africa and \$850 in developing Asia. Although there is improvement in export diversification, there still exists a value added gap in export goods as far as majority of the exports are of primary goods [3].

This induces an intriguing question as to whether the export incentive schemes have robustly helped in improving the export sector in the country. This paper, therefore, aims at examining the trend of both export & export trade incentive schemes and the effect of such incentives on export growth in Ethiopia. A time series econometric model is used to check the nexus between export trade incentives and export growth in Ethiopia over a period 1997-2011 by regressing export value, volume and diversification against variable that collectively capture financial and fiscal incentives. To the best of the researchers' knowledge, there is no empirical study made so far that shows the relationship between export trade incentives and export growth in Ethiopia. Therefore, this study is designed to fill this void in literature.

The rest of the paper is organized as follows. Section 2 presents review of related theoretical and empirical literature, Section 3 presents data and methodology, Section 4 presents the findings; and the last section concludes.

## **2. REVIEW OF RELATED LITERATURE**

### **2.1 Theoretical literature on Export Trade and Economic Growth**

Over the last half century, there has been a crucial change in thinking in the field of development economics regarding the impact of foreign trade on developing countries. The predominant view until the 1970s was that developing countries were primarily restricted to exporting primary commodities that often faced slow demand growth. But over the time, a number of developing countries demonstrated that it was possible to produce manufactured goods capable of competing in world markets by starting with resources and labor intensive products, and then moving up the technological ladder [4].

Today, the view that exports foster economic growth is central to any discussion of development strategies. Hence, the export led growth strategy is part of a larger body of literature relating to "openness" to economic growth. For example, [5] suggests that an export strategy's beneficial impact on growth is multiplied if it is complimented with trade liberalization. Extensive researches provide the rationale for pursuing an Export-Led Growth (ELG) theory. In this regard [6] and [7] indicated that exports can be a deriving engine for an economy. Exports influence and contribute to higher growth and economic development through a variety of channels; through generating earnings of foreign exchange, reaping economies of scale and specialization and accessing new technology.

Similarly, [8] showed that a buoyant export sector enlarges the domestic market so that firms achieve economies of scale and lowers unit costs of a product. This may be expected because an export sector allows a country to trade along its lines of comparative advantages, specifying not only in commodities that used its abundant factors intensively, but also where its per unit cost are lower. Similarly, [9] pointed out that exports lead to increased real GNP; loosen a binding foreign exchange constraint and allow increase in

productive intermediate imports and hence result in the growth of output; and also result in enhanced efficiency and thus may lead to a higher output.

In general, all the above theoretical studies indicate that export plays an important role in igniting and sustaining rapid economic growth through efficient resource allocation, employment generation, relaxing the foreign exchange constraints, exploiting economies of scale, improving technological spillovers and allowing countries to trade along their lines of comparative advantages.

## **2.2 Empirical Literature on Export Trade and Economic Growth**

The positive association between export openness and economic growth is reported in many empirical studies. For instance, [10] has conducted a study in the 'Growth miracle' countries of Asia<sup>4</sup> using time series data from 1955-1982. The study showed that there is a significant statistical association between export and economic growth. Similarly, [11] analyzed the economic growth of East Asian countries from 1965-1991, and found that export enabled the countries' economy to grow at an annual average between 4-8%. Besides, [12] examined the causal relationship between economic growth and export of developing Asia and Latin America over 1965-1995, and showed that there is significant positive relationship between export and economic growth. This is also confirmed by [13] who, based on data from India, Pakistan, Philippines, Malaysia, and Thailand from 1973-1993, finds a strong relationship between export and economic growth.

[14] have examined a group of countries over the period 1970-1989 and have found that open developing countries grew 4.5% while closed developing economies grew only by 0.7%. Furthermore, [15] finds that more export oriented middle income countries grow faster than relatively less export oriented economies. [16] also indicated that the recent fast growth of China and India is partly explained by the expansion of their exports.

Empirical studies on African countries also reveal similar results. For instance, [17] and [1] conducted a study on 21 Sub Saharan Africa countries and found that economic growth was achieved due to agricultural export in nine countries and manufactured product export in three countries. In sum, the foregoing empirical studies largely confirm the postulate that export drives economic growth.

## **2.3 Export Incentives and Export Growth**

Governments provide export incentives in order to keep domestic products competitive in the global market. According to [18], the central aim of export incentives is to contribute to the overall economic development of a country by means of increasing the total merchandise exports of the country and the diversification of the structure of such exports, not only in terms of products but also export market/destinations.

Countries sometimes resort to various export promotion schemes or request special and differential treatment for their exporters to overcome export barriers in international trade. Such barriers include existence of high cost of production of exportable products due to tariffs and other related costs. Tariffs on imports create a disincentive to export by directly raising the domestic price of imports relative to exports by reducing the price of exports relative to imports. According to [19], reducing import restrictions in the form of tariffs is a

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<sup>4</sup>*These countries include Hong Kong, Korea, Singapore and Taiwan.*

policy option that both developing and developed countries could implement in order to improve incentives to export. Export trade incentives can be broadly grouped into three categories as Fiscal Incentive, Financial incentive and non-monetary incentives<sup>5</sup>. Each of these incentives is discussed in ensuing paragraphs.

## **2.4 Fiscal Incentives**

It includes all measures taken to reduce disincentives to export efforts caused by duty or other charges on exports, duties on imports required for production of exports; duties on imports of materials and components required for the production of manufactured goods as well as a duties on production that add unnecessary cost to the selling price of export products[18]. This group consists incentives including tax concessions on export earning; exemption/reduction of export duties; accelerated depreciation methods for export industry; temporary admission of materials incorporated in export goods; exemption, rebate or refund of sales tax, purchase tax and internal taxes and adjustment in export tariffs.

According to [20], fiscal incentive schemes such as duty drawback and exemptions, manufacturing under bonded warehouse and establishment of export free zones are considered 'compensatory' which are targeted to eliminate disincentives raised from economy's trade, investment and exchange regimes by assuring equal footing with foreign competition in terms of access to inputs at world market prices. However, the duty-drawback schemes that countries employ in an attempt to remove the bias against exports due to tariffs on imported intermediate inputs often do not eliminate the bias completely. [19] stated that this is justified based on the ground that the scheme is costly to administer; reduces government revenue, leading to increase in distorting taxes which themselves might discourage exports; and drawbacks do not reverse the decline in the relative price of exports as a result of a higher tariff.

## **2.5 Financial Incentives**

These are designed to make export business attractive through compensation for price disadvantage resulting from internal regulations that are not oriented towards export promotion [18]. Such category of incentives includes: Direct/indirect Cash subsidies; Export credit facilities for pre-shipment and post shipment transactions; Special foreign exchange allocation and remission of tax normally chargeable on profits. According to [21]and [22], financial access through affordable interest rate enables exporters to eliminate their financial constraints.

[20] described financial incentives as 'autonomous' and 'complementary' measures that are aimed at providing special incentives for exporting activities that are not necessarily related to any disincentive that would be associated with the prevailing trade, investment and exchange rate regimes. Furthermore, [23] argue that financial subsidies help correct allocative distortions created by poor credit markets, and therefore can boost export growth.

## **2.6 Empirical Evidence on the Role of Export Incentive Schemes**

The most compelling piece of evidence in support of incentives is that the vast majority of manufactured exports in the successful Asian economies utilized at least one of the

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<sup>5</sup>Since this research emphasized on the two types of incentives (fiscal and financial), the researcher didn't discuss the non-monetary incentives in this paper.

incentive facilities. These countries have provided different incentives including preferential financing, promotion subsidies, tax incentives, subsidized infrastructure, and foreign investment incentives [24].

[25] and [26] have indicated four elements for the successful export push strategies in Asian countries: access to imports at world prices, provision of export financing to encourage the expansion of new export activities; market penetration strategy through export subsidy and through the creation of international trading companies. These countries pursued strictly result-oriented policies; if a scheme did not generate results in the form of higher exports in a relatively short period of time, it was promptly canceled. Secondly, exports provided a performance-based criterion for allocating credit, encouraged the adoption of international standards, and accelerated the diffusion of technology [20].

In Africa, countries endeavored to mimic successful Asian countries. For instance, in Kenya, the government subsidized credit through specialized financial institutions and commercial bank, provisions of such export incentives as Export Compensation Scheme (until 1989), Manufacturing under Bonded Warehouse (introduced in 1989), export promotion zone (introduced in 1990) and Import duty exemptions schemes directed at exporters who were not using the export compensation scheme was introduced [22]. In Zimbabwe, the government introduced such schemes as Inward Processing rebate scheme (similar to manufacturing under bond) and Duty drawback scheme. In Nigeria, the export assistance and programs of the government are largely based on the government's assistance and fiscal policies which included incentives such as currency retention scheme, manufacturing under bond, duty drawback, export credit and insurance scheme, export development fund and the like [6].

However, the effort did not bear as much fruit either due to complexity of procedures; long delays in getting some of the incentives; limited access for such incentives [22]; and poor implementation of incentive policies and programs [27]. This is confirmed by [20] who finds that the implementation of economic wide incentive schemes in many low income countries has been flawed due to inadequate development of necessary instruments, institutions and mechanisms.

According to [22] in countries (including Africa) where money and financial market are not well developed and are highly segmented, exporters can't enjoy neutral status without a special export financing system. These places exporters at a disadvantage compared to both foreign competitors and local beneficiaries of credit rationing, and make it harder to exploit the export capabilities of developing countries.

### **3. DATA AND METHODOLOGY**

#### **3.1 The Data**

The study used secondary data on export and incentives collected from Ethiopian Revenue and Customs Authority (ERCA), National Bank of Ethiopia (NBE), and Development Bank of Ethiopia (DBE). The export data of the country and the fiscal incentives data were collected from ERCA data base. Data related to financial incentives and GDP growth rate were collected from NBE, while the Real Effective Exchange Rate (REER) index is collected from Ethiopian Development Research Institute (EDRI). The study employed quarterly data for each variable from 2003 to 2011, hence 36 observations.

### 3.2 Methodology

This study employs a combination of methods including trend analysis, correlational, and time series econometric analysis

### 3.3 Definitions of Variables

The dependent variable of the study is Export Growth, which is sub divided in to three variables: Export value, Export volume and Export concentration. Export value is defined as the value of annual export expressed in local currency (ETB). Export volume is the volume of commodities exported per annum measured in terms of kilograms. Besides, export concentration is measured using Herfindahl Hirschman Index (HHI)<sup>6</sup>. These three dependent variables are believed to be affected by fiscal incentives, financial incentives, real GDP growth, and Real Effective Exchange Rate. Fiscal incentive is the aggregate monetary incentive provided annually to exporters under duty drawback scheme (DDB), voucher scheme (VS) and manufacturing under bonded warehousing (MBW). On the other hand, financial incentive is the amount of export credit guarantee (ECG) provided per annum.

### 3.4 The Model

The following models are formulated assuming that the effect of export incentives on dependent variables is carried out in a production function framework. Hence,

$$EXPG = f(\text{FISCI}, \text{FINI}, \text{GDP}_R, \text{REER}) \dots \dots \dots (1)$$

Where, EXPG is the export growth of the country, REER is the export weighted real exchange rate index; FISCI is the amount of fiscal incentive; and FINI is the amount of financial incentive. Therefore, from the above equation, the following econometric models are derived in order to examine the effect of export incentive on export growth;

$$\text{EXPVAL} = \alpha + \beta_1 \text{FISCI} + \beta_2 \text{FINI} + \text{GDP}_R + \text{REER} + e \dots \dots \dots (2)$$

$$\text{EXPVOL} = \alpha + \beta_1 \text{FISCI} + \beta_2 \text{FINI} + \text{GDP}_R + \text{REER} + e \dots \dots \dots (3)$$

$$\text{EXPCONC} = \alpha + \beta_1 \text{FISCI} + \beta_2 \text{FINI} + \text{GDP}_R + \text{REER} + e \dots \dots \dots (4)$$

Where,

- EXPVA = is the amount export value in ETB at constant prices.
- EXPVO = is the amount of Export volume in kilograms
- EXPCONC = is export concentration index measured using HHI.
- FISCI = is the amount of fiscal incentive in ETB

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<sup>6</sup> 
$$HHI = \sum_{i=1}^n S_i^2$$

Where -  $S_i^2$  is the square of the export earning share of commodity  $i$ , measured by dividing the export earning of that commodity to the total export earnings and '  $n$  ' is the total number of export commodities.

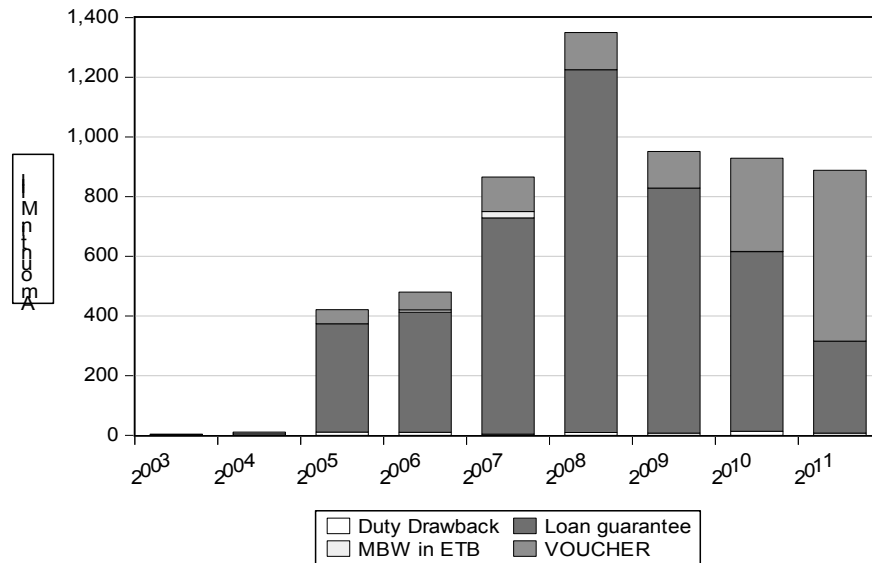
FINI = is the amount of financial incentive in ETB  
 GDP\_R = Real GDP growth rate  
 REER = Export weighted real exchange rate index.

Therefore, based on the above model estimations, the long run causality among the study variables is examined empirically.

#### 4. RESULTS AND DISCUSSION

##### 4.1 Export Trade Incentives in Ethiopia

Export trade incentive schemes in Ethiopia consist of fiscal and financial incentives, which include Duty drawback (DDB), voucher(VC), manufacturing under bonded warehousing(MBW) and export credit guarantee schemes(ECG). The export credit guarantee has proved the most important incentive to exporters as evidenced by the magnitude of loan extended via this scheme, which excels all the fiscal incentives combined. From the fiscal incentives, over 90% is provided through the VC while the remaining is divided between DDB,MBW.



**Fig. 4.1 Trends of export incentives**

As shown in Fig. 4.1 above, the trend of revenue forgone through the voucher scheme has an increasing pattern ever since its introduction. It was only a little over ETB 1.6 million in 2003 and reached to over ETB 572.2 million in 2011. The amount of revenue forgone in the form of drawback during the entire study period is over ETB 67.4 million. With a total amount of revenue of ETB 29.1 million, MBW is the least functional export incentive scheme in Ethiopia.

The ECG scheme has been introduced with the aim to improve the export capacity of exporters by providing pre-shipment and post- shipment financing. The scheme was first introduced in July 1999 but it was not functional until 2003 after the scheme was re-



established through NBE directive no.SBB/33/2002. The scheme operates in such a manner that the National Bank of Ethiopia<sup>7</sup> guarantees loans secured by exporters from banks. The total of over ETB 4.395 billion has been provided to exporters under export credit guarantee scheme, the highest loan provision is registered in 2007, which amounts over ETB1.215 billion.

## 4.2 Trend of Export Performance and Export Incentives in Ethiopia

### 4.2.1 Trend of Export growth by value

As depicted in Fig. 4.2, the trend of export value growth of the country shows an increasing pattern despite some fluctuations over the study period.

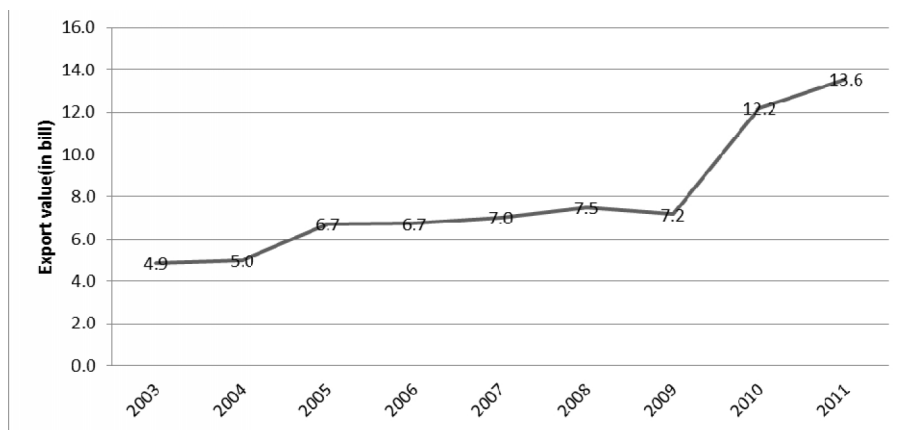


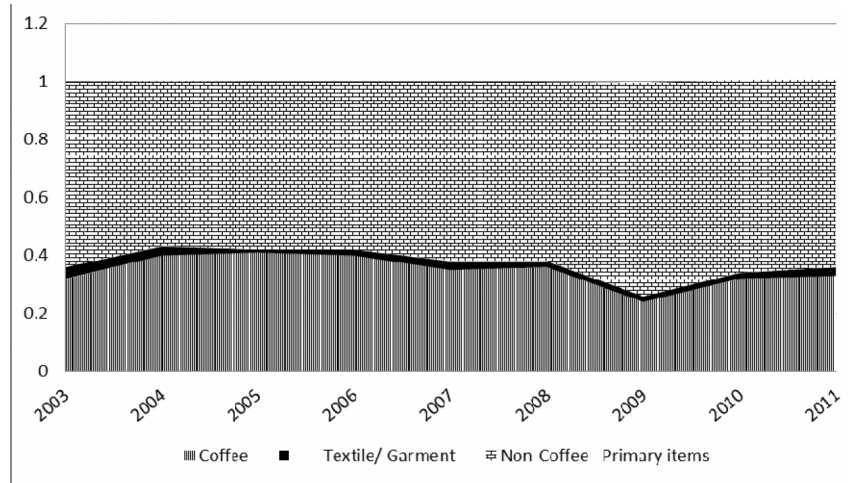
Fig. 4.2. Trends of export value in constant prices from 2003 to 2011

As shown in the above figure, the export value of the country has increased from ETB 4.9 billion in 2003 to birr 13.6 billion in 2011, and it has been growing at annual average of 22%. Furthermore, the computed average export per capita during the period is ETB 144. The highest export per capital is recorded in 2011 amounting to ETB 507 and the lowest amount of ETB 55.5 in 2004. On the other hand, the computed average share of total exports to the Gross Domestic Product (GDP) of the country during the period is only 7%, the highest share is registered in 2011 accounting for 10% and the lowest share is 6%. This shows that the contribution of exports to the total GDP of the country is still very low.

### 4.2.2. Trend of Export Composition/Diversification

Historically, Ethiopia is known with the export of few primary commodities. Even today, the country generates the lion's share of its foreign currency from few primary commodities such as coffee, cereals, pulses, oilseeds and hides & skins. However, as depicted in Fig. 4.3, additional export items have been introduced leading to a sharp decline in concentration.

<sup>7</sup>Operation of the credit guarantee scheme transferred to the Development Bank of Ethiopia beginning July 2007.

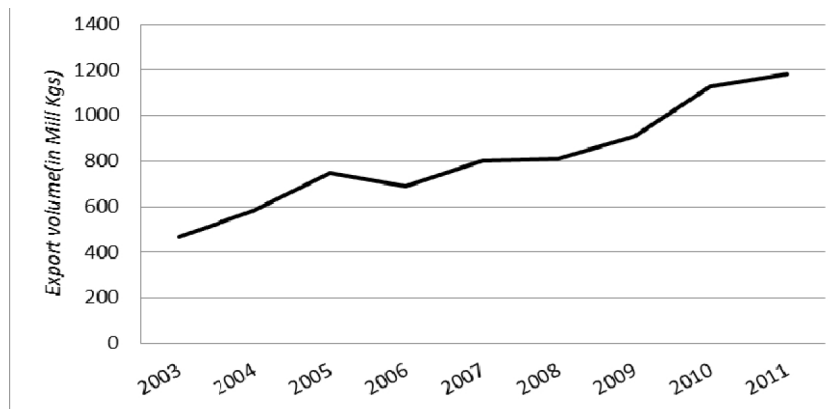


**Fig. 4.3. Trends in the composition of export items**

As shown in Fig. 4.3 above, coffee has been the single most important export item in Ethiopia comprising over more than 30% of exports throughout the study period. A marginal decline in the share of coffee and a concomitant expansion of non-coffee export items evidences introduction of various other export commodities into the sector. This is also revealed using HHI which shows that the export concentration of the country has improved from time to time. HHI was about 0.27 in 2003 while plummeted to 0.19 in 2011.

**4.2.3. Trend of Export volume**

Volume of export has been growing significantly leading to increase in the country's export revenue over the study period. Fig. 4.4 shows how the volume of export has changed during the period.

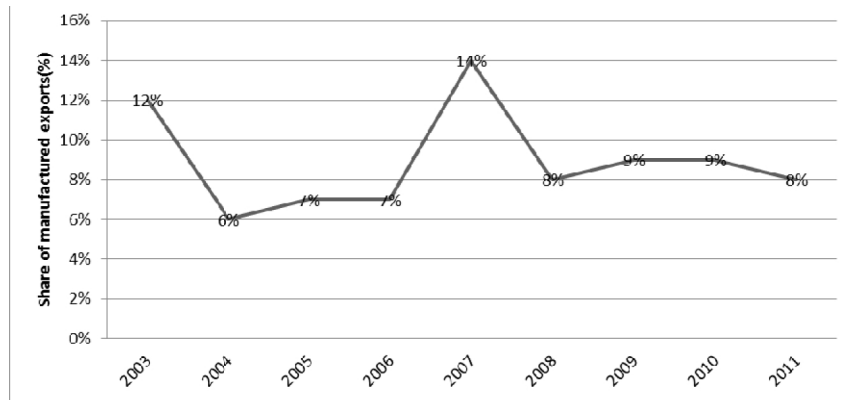


**Fig. 4.4. Trends of export volume(in millions of Kgs)**

As shown in Fig. 4.4, the volume of export has increased substantially during the study period. The average export volume is 625.7 million kilogram with annual growth rate of 11%.

#### **4.1.3.4. Trend of Value Added Export Products**

Ethiopia exports predominantly primary goods, mostly agricultural products. The level of value added manufactured export item is very minimal. The trade liberalization policy the country pursues allowed establishment of different private firms that are engaged in the export of semi-finished and finished products including leather and leather products, textile and garment products, steel products, and agro-processing products. However, the contribution of these items to export earnings is insignificant compared to the traditional export items. The following chart shows the trend of manufactured export performance from 2003 to 2011.

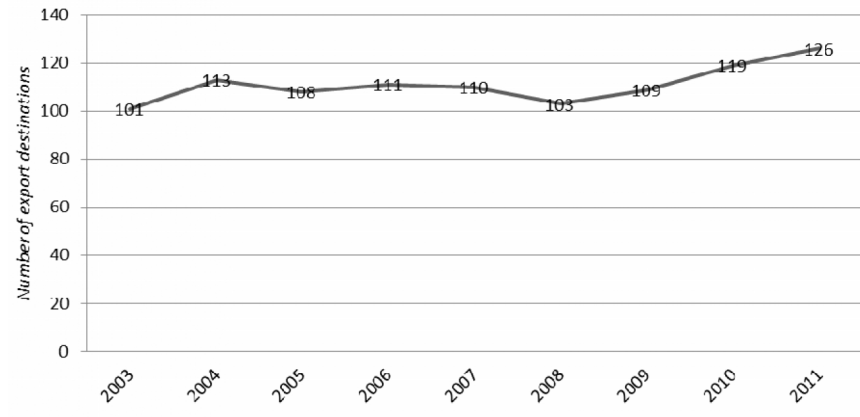


**Fig. 4.5. The share of manufactured exports from 2003 to 2011**

As shown in Fig. 4.5, the share of manufactured exports from the total merchandise export is small, with average share of only 10%. The share of manufactured export value to the GDP of the country is very small, not exceeding 1%. This shows that the country's export heavily depends on non-manufactured/primary commodities.

#### **4.2.5. Trend of Export Destinations**

Market for the country's export has expanded due to international and regional trade pacts. For instance, Ethiopia is the member of Common Market for Eastern and Southern Africa (COMESA), it also has preferential market access with USA under African Growth Opportunity Act (AGOA) and also with the European Union under the trade opportunity of Everything But Arms (EBA). The effect of all of this is increase in access to various foreign markets. This is evidenced by the fact that the number of export partner countries increased from 101 in 2003 to 126 in 2011.



**Fig. 4.6 Trends of the number of export destinations**

As depicted in Fig. 4.6 above, the number of export partners has shown a marginal increment over the study period. The average number of destination countries during the period is 111. The number of destination countries was 101 in 2003 and 126 in 2011, of which 43 were located in Africa, 39 in Asia, 29 in Europe, 8 in Latin America, 5 in Central & North America and 2 in Australia.

### **4.3 Empirical Analysis on the Effect of Export Incentives on Export Growth in Ethiopia**

#### **4.3.1 Correlation test of variables**

As depicted in Table 4.1, export concentration is negatively correlated with exchange rate, financial and fiscal incentives while it is positively correlated with GDP. This implies that while strengthening of the Ethiopian birr and increase in financial and fiscal incentives are correlated with increased diversification of exports; the increase in GDP growth rate is rather correlated with export concentration. Export value has a strong positive correlation with exchange rate and fiscal incentives, negative correlation with GDP growth rate. Export volume is strongly correlated with real effective exchange rate and fiscal incentives, but only weakly correlated with financial incentives.

#### **4.3.2 Econometric time series analysis**

##### *4.3.2.1 Diagnostic test results*

As explained by [28], time series data is stationary if its mean and variance are constant overtime and the covariance between the two time periods depend on distance or lag. Stationarity of the variables is tested using Augmented Dickey-Fuller (ADF) approach, and the results show that all the variables are stationary at first difference. Johanson System Co-integration test has been conducted and it was found that the models EXPCONC and EXPVOL each has 2 co-integrating equations (P=0.05) while EXPVAL has 3 co-integrating equations (P=0.05). Existence of co-integration among the series suggests that variables have a long run relationship, and calls for Error Correction Model (ECM) to estimate short run relations.

Table 4.1 Correlation results among the study variables

Variables	Exp_Conc	Exp_Val	Exp_Vol	Finan_Inc	Fisc_Inc	Gdp_Gr	Reer
EXP_CONC	1						
EXP_VAL	-0.438293***	1					
EXP_VOL	-0.433059***	0.964258***	1				
FINAN_INC	-0.327987*	0.155820	0.309114*	1			
FISC_INC	-0.419551**	0.753518***	0.660927***	-0.050651	1		
GDP_GR	0.746020***	-0.284189*	-0.241301	-0.226191	-0.345136**	1	
REER	-0.262076	0.009135	0.116613	0.694457***	0.030383	-0.470012***	1

\*\*\*Denotes significance at 1% level, \*\*Denotes significance at 5% level, \*Denotes significance at 10% level

## 4.3.2.2 Time series regression results: the long run model

The regression output in Table 4.2 shows that both financial and fiscal incentives have a statistically significant long run impact on export value. The real effective exchange rate (REER) has a statistically significant negative long run effect on export value. This implies that a stronger Ethiopian Birr hurts the export sector. As shown in Table 4.3, increase in export volume in the long run is driven by financial and fiscal incentives. Financial and fiscal incentives also help in diversifying exports in the long run as evidenced by a statistically significant negative coefficient for financial and fiscal incentives (see Table 4.4). GDP growth is found to have a positive long run relationship with export concentration, implying that increase in output led to decreased diversification in export items. This can be explained on the ground that the country relies on a few primary goods for export, and that items such as coffee still dominate its export earnings. Similarly, real effective exchange rate has a statistically significant positive effect on export concentration, which suggests that appreciation of the Ethiopian Birr leads exporters to focus on few export items. Overall, both financial and fiscal incentives have a robust long run impact on export value, volume and diversification in Ethiopia. While the real effective exchange rate has a statistically significant negative impact on export value and positive impact on export concentration. In general, the fiscal and financial incentives explain much of the change in export performance of the country over the study period.

**Table 4.2. Regression result for the determinants of export value.**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FINAN_INC	4.587480	1.687897	2.717867	0.0108
FISC_INC	15.84989	2.440924	6.493395	0.0000
GDP_GR	-45983646	65833578	-0.698483	0.4903
REER	-26941813	13160617	-2.047154	0.0495
C	3.90E+09	1.66E+09	2.349128	0.0256

Adjusted R<sup>2</sup> = 0.61**Table 4.3. Regression result for the determinants of export volume**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FINAN_INC	0.484808	0.147263	3.292119	0.0026
FISC_INC	1.172554	0.212962	5.505925	0.0000
GDP_GR	-600137.6	5743752.	-0.104485	0.9175
REER	-1811286.	1148218.	-1.577475	0.1252
C	2.79E+08	1.45E+08	1.924786	0.0638

Adjusted R<sup>2</sup> = 0.54**Table 4.4. Regression result for determinants of export concentration**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FINAN_INC	-2.03E-10	6.27E-11	-3.243949	0.0029
FISC_INC	-1.56E-10	9.07E-11	-1.723916	0.0950
GDP_GR	0.015396	0.002445	6.297246	0.0000
REER	0.001338	0.000489	2.737145	0.0103
C	0.042909	0.061733	-0.695075	0.4924

AdjustedR<sup>2</sup> = 0.59

## 4.3.2.3 Time series regression results: the short run relations (Error Correction Model)

While the previous section presented the long run determinants of export growth in Ethiopia, this section focuses on factors that determine export growth in the short run. As shown in Table 4.5 and Table 4.6, change in financial and fiscal incentives have a statistically significant impact on both export value and export volume in the short run. However, the twine incentives do not have impact on export concentration in the short run. Short run export concentration is rather determined by change in GDP growth rate and real effective exchange rate (see Table 4.7).

**Table 4.5 Regression result for determinants of export value**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FINAN_INC)	15.75007	1.969101	7.998610	0.0000
D(FISC_INC)	41.27948	10.43767	3.954855	0.0005
D(GDP_GR)	73307168	58546735	1.252114	0.2209
D(REER)	-12272917	10392035	-1.180993	0.2475
UVAL(-1)	-0.278681	0.170393	-1.635518	0.0131
C	-1.30E+08	80545185	-1.618112	0.1168

*Adjusted R<sup>2</sup> = 0.84*

**Table 4.6 Regression result for determinants of export volume**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FINAN_INC)	1.394724	0.186061	7.496055	0.0000
D(FISC_INC)	3.153217	1.021782	3.085998	0.0045
D(GDP_GR)	6875241.	5664595.	1.213722	0.2350
D(REER)	-1369353.	1026558.	-1.333926	0.1930
UVOL(-1)	-0.353047	0.189555	-1.862503	0.0731
C	-9527781.	7840743.	-1.215163	0.2345

*Adjusted R<sup>2</sup> = 0.82*

**Table 4.7 Regression result for determinants of export concentration**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FINAN_INC)	-5.98E-11	4.24E-11	-1.411954	0.1690
D(FISC_INC)	1.95E-12	3.91E-10	0.004974	0.9961
D(GDP_GR)	0.016328	0.002198	7.428180	0.0000
D(REER)	0.001170	0.000311	3.763307	0.0008
UCONC(-1)	-0.188953	0.141319	-1.337067	0.0920
C	0.000977	0.002599	0.376091	0.7097

*Adjusted R<sup>2</sup> = 0.79*

In general, the above empirical findings imply that provision of financial and fiscal incentives have effect on export value and volume both in the long run and short run. However, their effect on concentration is confined only to the short run. Long run export growth is also explained by GDP growth rate and real effective exchange rate. Export diversification is determined by change in GDP growth and real exchange rate in the short run while it is affected in the long run by financial and fiscal incentives too. A statistically significant long run effect of financial incentives on export growth can be explained based on the ground that the country has a weak credit market, restraining private firms' ability in engaging in the export

sector. Alleviating the financial restraint and also offering fiscal incentives have a strong impact on exports due to their greater incentive value.

#### **4. CONCLUSION**

This study has attempted to examine the effect of export incentives on export growth in Ethiopia over the period 2003 to 2011. The findings suggest that the country's export earning showed a sustained increase since introduction of the incentive schemes. Despite the fact that the country's export earning is predominantly from few primary commodities such as coffee, cereals, oilseeds, pulses and hides & skins, the country's export diversification strategy seems to have borne fruit during the study period. This is evidenced by a decline in export concentration Index (HHI) from 0.27 in 2003 to 0.19 in 2011.

The study revealed that there was no significant improvement in value added exports over the study period. Export of manufactured goods constituted, on average, 10% of the total export, and it grew at an average annual rate of 25%, implying that the country's exports are still dominated by non-manufactured export items. The study also shows that the market access of the country's product has increased. However, the share of the total merchandise export revenue to the GDP is only about 10%. This implies that unlike the developed Asian countries, the role of exports on economic growth is insignificant in Ethiopia.

We found that there is positive relationship between export growth and export incentives, and our time series econometric analysis revealed that financial and fiscal incentives have effect on export growth(value and volume) both in the short run and long run. While the incentives affect export diversification in the long run, they do not have a short run effect, which suggests that it takes time for exporters to take advantage of the incentives by introducing a new export item.

Besides the incentives, the country's export growth is affected by GDP growth and real effective exchange rate. GDP growth affects export concentration both in the long run and short run, and does not have effect on export value and volume in both the short run and long run. Absence of causal relationship between GDP growth rate and export(value and volume) implies that Ethiopia is not an export oriented economy. Real effective exchange rate affects export concentration both in the short run and long run. It also affects export value in the long run, which is consistent with [30] who found a significant long run effect of exchange rate on export growth. In general, the twine incentives helped the country expand the export sector. However, the country's export still relies on primary goods and the share of manufactured export is very small. This, in our view, would be corrected by accelerating industrialization; otherwise, it would be naive to expect manufactured export to dominate export earnings in the absence of a robust industrial sector.

#### **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

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