

Research paper

Export Trade Incentives and Export Growth Nexus: Evidence from Ethiopia

Ashenafi Beyene Fanta ^{1*}, Getaneh Benalfew Teshale ²

¹Assistant Professor, Department of Public Financial Management, ECSU, Ethiopia

² Lecturer, Department of Accounting & Finance, Assosa University, Ethiopia

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 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 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"¹ in the second half of the 20th

¹ These are South Korea, Taiwan, Hong Kong and Singapore

* Tel.: +251911446832.

E-mail address: ashenafizb@gmail.com.

20 century has been largely attributed to the performance of the external sector where the
21 export sector was given a greater emphasis. Over the past two decades, developing
22 countries have progressively increased their share in global trade from just less than a
23 quarter to about a third [2].

24 Having realized the role of export in driving economic growth and hence development, the
25 Ethiopian government has been endeavoring to create an environment conducive for
26 expansion of the export sector. The government established export trade incentive
27 schemes² through proclamation No.249/2001(later amended by proclamation No. 543/2007)
28 and issued various directives on the establishment of different financial incentive schemes³.
29 It provided a lot of support in the form of financial and fiscal incentives. For instance, the
30 fiscal incentives provided have grown from ETB 176mill in 2003 to ETB 1.12bill in 2011, and
31 financial incentives reached ETB 1.215bill in 2008 from ETB 362mill in 2005.

32 This led to changes in the export sector performance. For instance, the real value of export
33 earnings increased from ETB 5 billion in 1973-1978 to ETB 39.7 billion from 2000/1-2006/7.
34 In terms of diversification, although coffee is still the dominant export item, the share of non-
35 coffee agricultural exports and major manufacturing export commodities (leather and leather
36 products; textile; and agro processing products) has increased remarkably and reached
37 63.7% during the same period. Furthermore, the export destination countries increased from
38 68 in 1997 to 126 in 2011.

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

45 This induces an intriguing question as to whether the export incentive schemes have
46 robustly helped in improving the export sector in the country. This paper, therefore, aims at
47 examining the trend of both export & export trade incentive schemes and the effect of such
48 incentives on export growth in Ethiopia. A time series econometric model is used to check
49 the nexus between export trade incentives and export growth in Ethiopia over a period 1997-
50 2011 by regressing export value, volume and diversification against variable that collectively
51 capture financial and fiscal incentives. To the best of the researchers' knowledge, there is no
52 empirical study made so far that shows the relationship between export trade incentives and
53 export growth in Ethiopia. Therefore, this study is designed to fill this void in literature.

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

57

* Corresponding author can be reached via telephone 251911446832; E-mail: Ashenafizb@gmail.

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

³ 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).

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 Asia⁴ 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.

⁴ These countries include Hong Kong, Korea, Singapore and Taiwan.

102 [14] have examined a group of countries over the period 1970-1989 and have found that
103 open developing countries grew 4.5% while closed developing economies grew only by
104 0.7%. Furthermore, [15] finds that more export oriented middle income countries grow faster
105 than relatively less export oriented economies. [16] also indicated that the recent fast growth
106 of China and India is partly explained by the expansion of their exports.

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

112 **2.3. Export Incentives and Export Growth**

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

118 Countries sometimes resort to various export promotion schemes or request special and
119 differential treatment for their exporters to overcome export barriers in international trade.
120 Such barriers include existence of high cost of production of exportable products due to
121 tariffs and other related costs. Tariffs on imports create a disincentive to export by directly
122 raising the domestic price of imports relative to exports by reducing the price of exports
123 relative to imports. According to [19], reducing import restrictions in the form of tariffs is a
124 policy option that both developing and developed countries could implement in order to
125 improve incentives to export. Export trade incentives can be broadly grouped into three
126 categories as Fiscal Incentive, Financial incentive and non-monetary incentives⁵. Each of
127 these incentives is discussed in ensuing paragraphs.

128 **Fiscal Incentives**

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

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

⁵ 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.

146 discourage exports; and drawbacks do not reverse the decline in the relative price of exports
147 as a result of a higher tariff.

148 **Financial Incentives**

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

156 [20] described financial incentives as 'autonomous' and 'complementary' measures that are
157 aimed at providing special incentives for exporting activities that are not necessarily related
158 to any disincentive that would be associated with the prevailing trade, investment and
159 exchange rate regimes. Furthermore, [23] argue that financial subsidies help correct
160 allocative distortions created by poor credit markets, and therefore can boost export growth.

161 **2.4. Empirical evidence on the role of Export Incentive Schemes**

162 The most compelling piece of evidence in support of incentives is that the vast majority of
163 manufactured exports in the successful Asian economies utilized at least one of the
164 incentive facilities. These countries have provided different incentives including preferential
165 financing, promotion subsidies, tax incentives, subsidized infrastructure, and foreign
166 investment incentives [24].

167 [25] and [26] have indicated four elements for the successful export push strategies in Asian
168 countries: access to imports at world prices, provision of export financing to encourage the
169 expansion of new export activities; market penetration strategy through export subsidy and
170 through the creation of international trading companies. These countries pursued strictly
171 result-oriented policies; if a scheme did not generate results in the form of higher exports in a
172 relatively short period of time, it was promptly canceled. Secondly, exports provided a
173 performance-based criterion for allocating credit, encouraged the adoption of international
174 standards, and accelerated the diffusion of technology [20].

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

187 However, the effort did not bear as much fruit either due to complexity of procedures; long
188 delays in getting some of the incentives; were limited access for such incentives [22]; and
189 poor implementation of incentive policies and programs [27]. This is confirmed by [20] who
190 finds that the implementation of economic wide incentive schemes in many low income

191 countries has been flawed due to inadequate development of necessary instruments,
192 institutions and mechanisms.

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

198

199 **3. DATA AND METHODOLOGY**

200 **The data**

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

208

209 **Methodology**

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

212 **Definitions of Variables**

213 The dependent variable of the study is Export Growth, which is sub divided in to three
214 variables: Export value, Export volume and Export concentration. Export value is defined as
215 the value of annual export expressed in local currency (ETB). Export volume is the volume of
216 commodities exported per annum measured in terms of kilograms. Besides, export
217 concentration is measured using Herfindahl Hirschman Index⁶. These three dependent
218 variables are believed to be affected by fiscal incentives, financial incentives, real GDP
219 growth, and Real Effective Exchange Rate. Fiscal incentive is the aggregate monetary
220 incentive provided to exporters annually under duty drawback scheme (DDB), voucher
221 scheme (VS) and manufacturing under bonded warehousing (MBW). On the other hand,
222 financial incentive is the amount of export credit guarantee (ECG) provided per annum.

6

$$HHI = \frac{\sum_{i=1}^n S_i^2}{n}$$

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.

* Tel.: +251911446832.

E-mail address: ashenafizb@gmail.com.

223 The model

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

$$226 \text{ EXPG} = f(\text{FISCI}, \text{FINI}, \text{GDP_R}, \text{REER}) \dots \dots \dots (1)$$

227
228 Where, EXPG is the export growth of the country, REER is the export weighted real
229 exchange rate index; FISCI is the amount of fiscal incentive; and FINI is the amount of
230 financial incentive. Therefore, from the above equation, the following econometric models
231 are derived in order to examine the effect of export incentive on export growth;

$$232 \text{ EXPVAL} = \alpha + \beta_1 \text{FISCI} + \beta_2 \text{FINI} + \text{GDP_R} + \text{REER} + e \dots \dots \dots (2)$$

$$233 \text{ EXPVOL} = \alpha + \beta_1 \text{FISCI} + \beta_2 \text{FINI} + \text{GDP_R} + \text{REER} + e \dots \dots \dots (3)$$

$$234 \text{ EXPCONC} = \alpha + \beta_1 \text{FISCI} + \beta_2 \text{FINI} + \text{GDP_R} + \text{REER} + e \dots \dots \dots (4)$$

235 Where,

236 EXPVA = is the amount export value in ETB at constant prices.

237 EXPVO = is the amount of Export volume in kilogram

238 EXPCONC = is export concentration index measured using Herfindhal-Hischerman
239 Index(HHI).

240 FISCI = is the amount of fiscal incentive in ETB

241 FINI = is the amount of financial incentive in ETB

242 GDP = Real GDP growth rate

243 REER = Export weighted real exchange rate index.

244

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

247 4. RESULTS AND DISCUSSION

248

249 4.1 Export Trade Incentives in Ethiopia

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

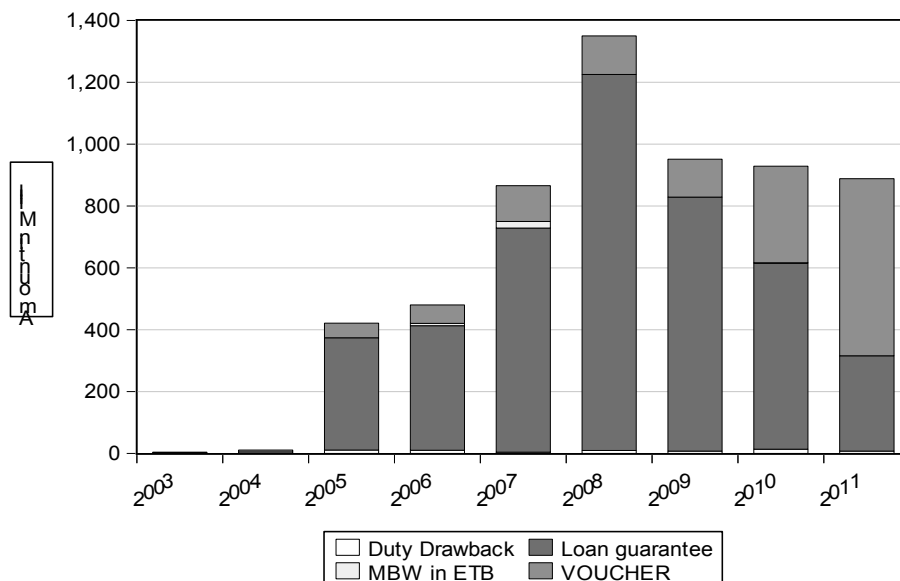


Fig 4.1 Trends of export incentives

As shown in the above graph, 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 over 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.

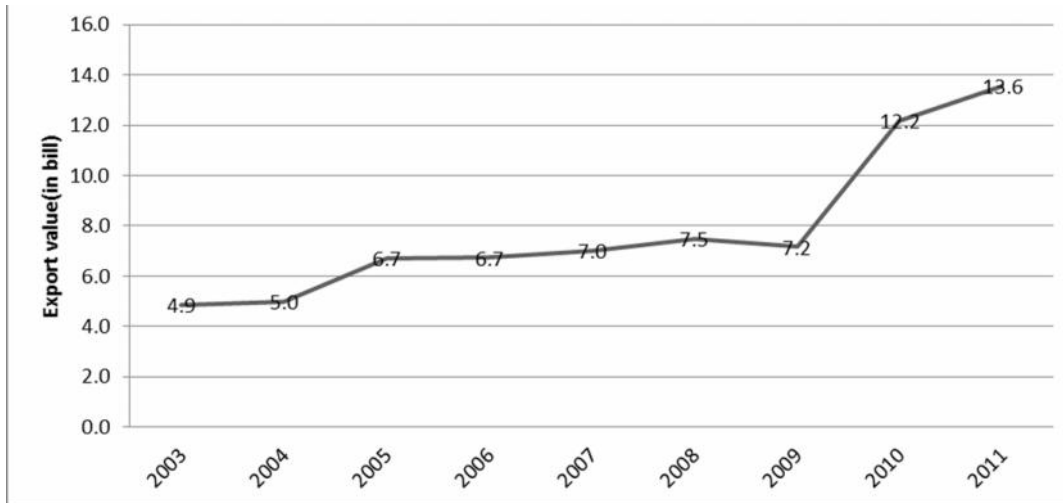
The ECG scheme has been introduced with the aim to improve the export capacity of exporters by providing pre-shipment and post- shipment financing. The scheme was first introduced in July 1999 but it was not functional until 2003 after the scheme was re-established through NBE directive no.SBB/33/2002. The scheme operates in such a manner that the National Bank of Ethiopia⁷ 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.

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



277

278

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

279

280

281

282

283

284

285

286

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 for 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.

287

4.2.2. Trend of Export Composition/Diversification

288

289

290

291

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.

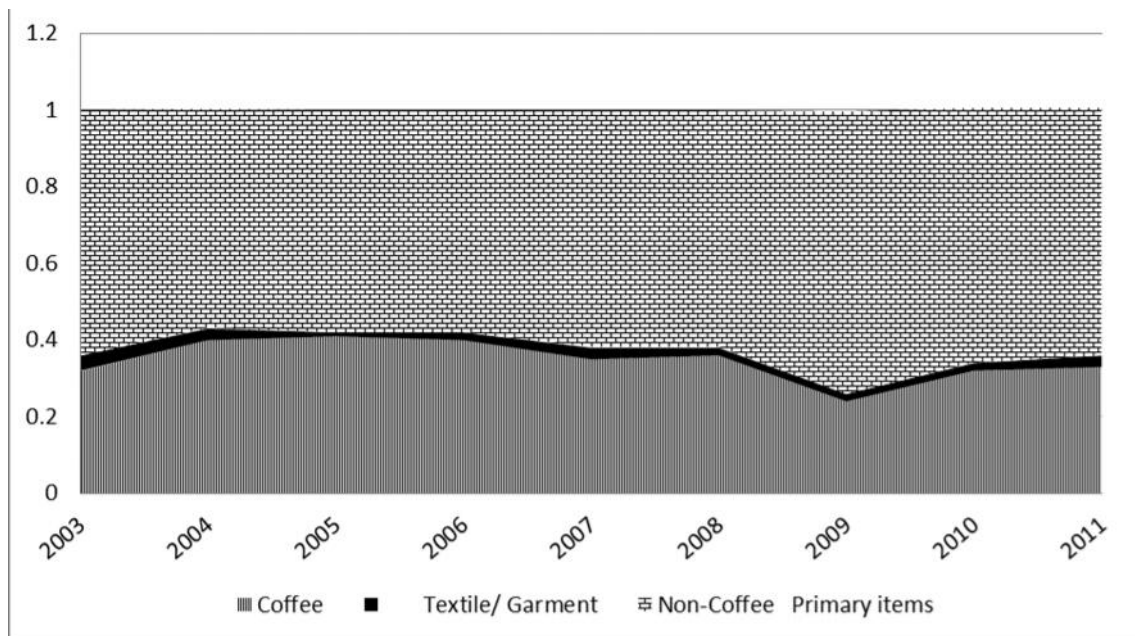


Fig 4.3 Trends in the composition of export items

As shown in figure 4.3 above, coffee has been the single most important export item in Ethiopia comprising over more than 30% of exports in 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. Figure 4.4 shows how the volume of export has changed during the period.

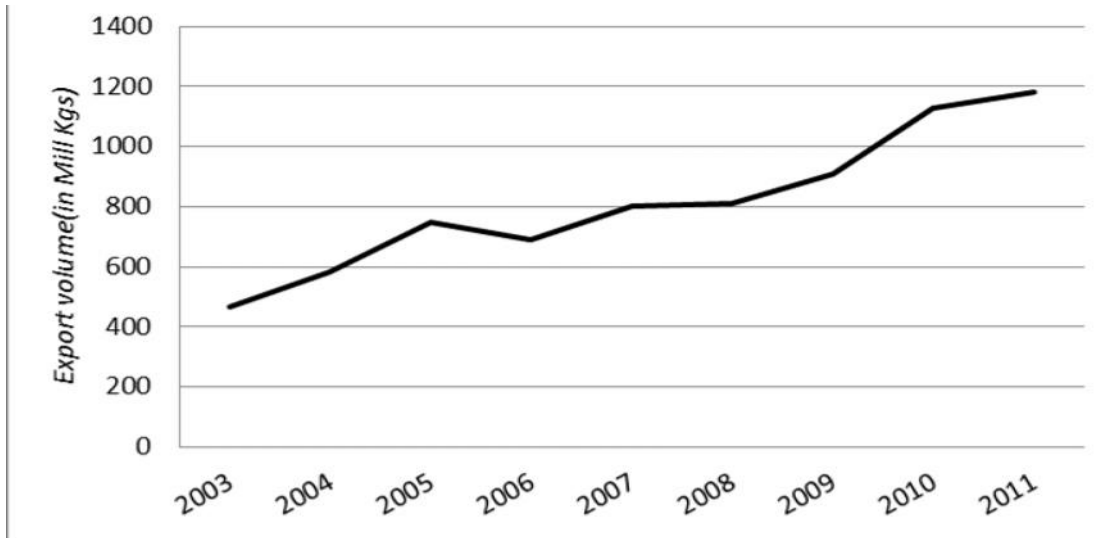


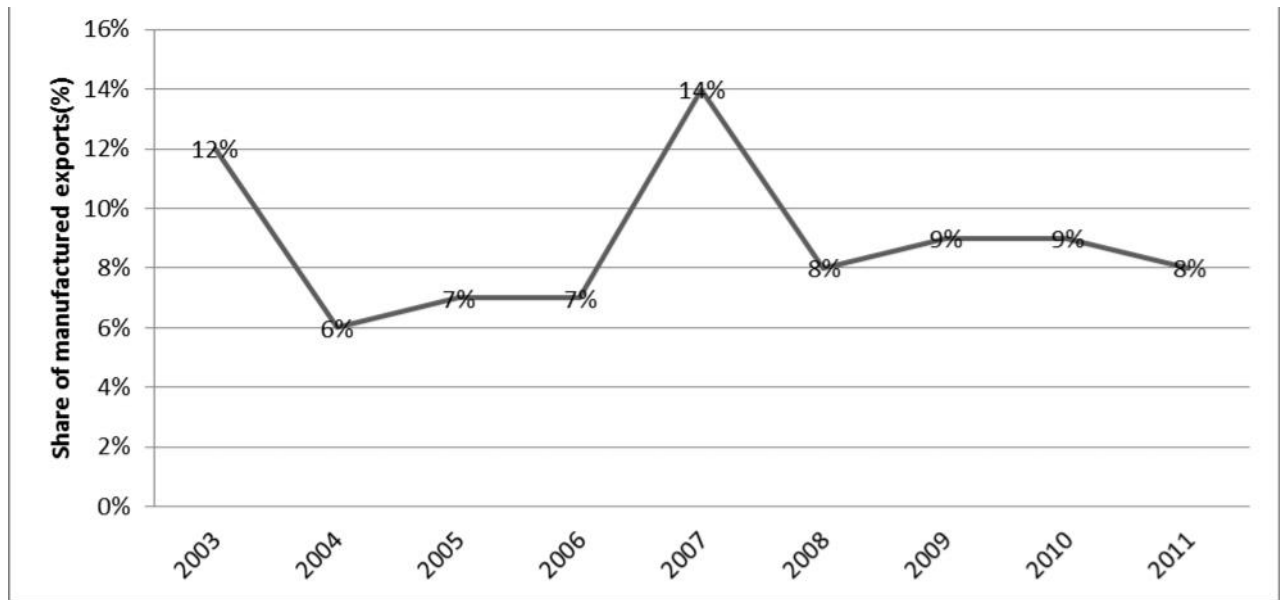
Fig 4.4 Trends of export volume(in millions of Kgs)

As shown in figure 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.

318



319

320

Fig 4.5 The share of manufactured exports from 2003 to 2011

321

322

323

324

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.

325

4.2.5. Trend of Export Destinations

326

327

328

329

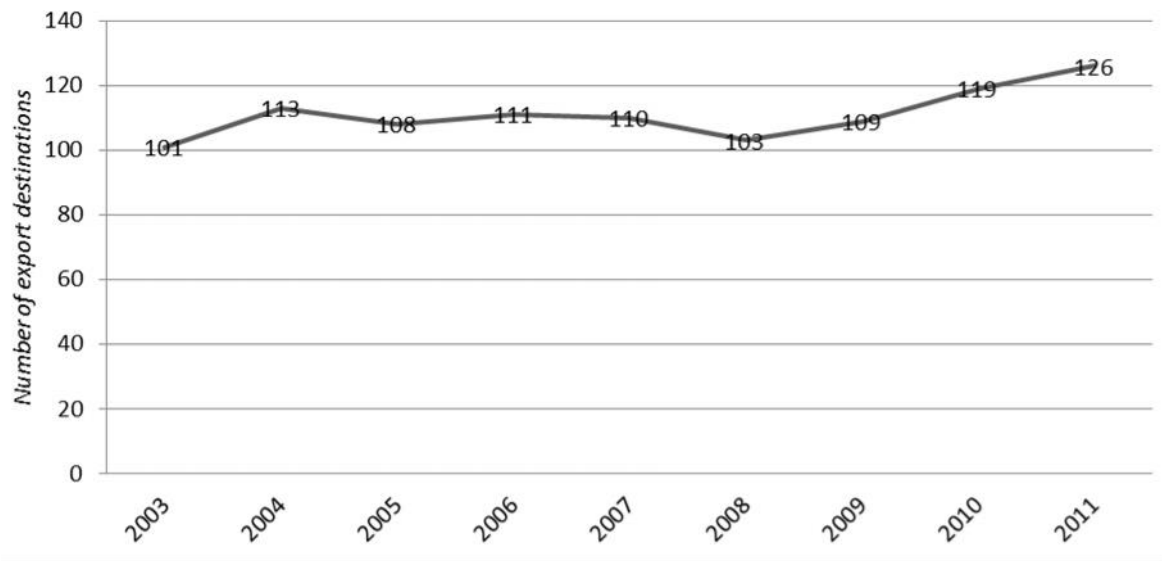
330

331

332

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), have 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.

333



334

336

Fig 4.6 Trends of the number of export destinations

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

342 **4.3. Empirical Analysis on the Effect of Export Incentives on Export Growth in** 343 **Ethiopia**

344 **4.3.1 Correlation Test of Variables**

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

354

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	-	1	

* Tel.: +251911446832.

E-mail address: ashenafizb@gmail.com.

					0.345136**		
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. Econometric time series analysis

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.

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

388

389 Adjusted R² = 0.61

* Tel.: +251911446832.

E-mail address: ashenafizb@gmail.com.

390

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

391

392

Adjusted R² = 0.54

393

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

394

395

Adjusted R² = 0.59

396

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

397

398

399

400

401

402

403

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).

404

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

405

406

407

Adjusted R² = 0.84

* Tel.: +251911446832.

E-mail address: ashenafizb@gmail.com.

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

409

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

410

411 Adjusted R² = 0.82

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

413

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

414

415 Adjusted R² = 0.79

417 In general, the above empirical findings imply that provision of financial and fiscal incentives
 418 have effect on export value and volume both in the long run and short run. However, their
 419 effect on concentration is confined only to the short run. Long run export growth is also
 420 explained by GDP growth rate and real effective exchange rate. Export diversification is
 421 determined by change in GDP growth and real exchange rate in the short run while it is
 422 affected in the long run by financial and fiscal incentives too. A statistically significant long
 423 run effect of financial incentives on export growth can be explained based on the ground that
 424 the country has a weak credit market, restraining private firms' ability in engaging in the
 425 export sector. Alleviating the financial restraint and also offering fiscal incentives have a
 426 strong impact on exports due to their greater incentive value.

427 **4. CONCLUSION**

428

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

436

* Tel.: +251911446832.

E-mail address: ashenafizb@gmail.com.

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 implies that Ethiopia is not an export oriented economy. Real effective exchange rate, affects export concentration in both 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 without having a robust industrial sector.

AUTHORS' CONTRIBUTIONS

Ashenafi, the corresponding author, 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 Mr Benalfew, the paper was prepared for publication in a journal by Ashenafi. All authors read and approved the final manuscript."

COMPETING INTERESTS

We declare that no competing interests exist.

REFERENCES

1. Bbaale, E. Mutenyo, J. Export composition and Economic growth in Sub Saharan Africa. Consilience: The Journal of Sustainable Development; 2011;6(1):1–19.
2. Yishak, T. Determinants of Ethiopian Export performance. Trade & Development Discussion paper 01/2009. Munich: BKP: 2009.
3. Access Capital. Invest in Ethiopia. 2010: Accessed on Jan, 20/2012.Available at www.accesscapitalsc.com.

- 485 4. Ethiopia: Developing Exports to Promote Growth. World Bank Report No. 23294-ET.
486 Washington DC: World Bank; 2002.
- 487 5. Rodrik, D. The New Global Economy and Developing Countries: Making Openness
488 Work. John Hopkins for Overseas Development Council: Washington DC; 1999.
- 489 6. Wangwe Samuel, M. Exporting Africa: Technology, Trade and Industry in Sub-Saharan
490 Africa. London: Rutledge; 1995.
- 491 7. Feder, G. On Exports and Economic Growth. Journal of Development Economics.
492 1982:12(1-2):59-73.
- 493 8. Tyler, W. Growth and Export Expansion in developing countries. Journal of Development
494 Economics;1981: 9(1):121-130.
- 495 9. Jung, W. &Marshall, P. Export, growth and causality in developing countries. Journal of
496 Development Economics; 1985:18(1):1-12.
- 497 10. Darrat, A. Are Exports an Engine of Growth? Applied Economics; 1987:19(2):277-283.
- 498 11. Kruger Anne, O. Ito, T. Growth theories in light of East Asian Experience. University of
499 Chicago Press: London; 1995.
- 500 12. Erfani, G. Export and Economic Growth in Developing Countries. International Advances
501 in Economic Research;1999:5 (1):147-148.
- 502 13. Vohra, R. Export and Economic Growth: Further time series evidence from less
503 developed countries. International Advances in Economic Research; 2001: 7(3):345-
504 350.
- 505 14. Sachs, J. D., Warner, A. Economic Reform and the Process of Global Integration.
506 Brookings Papers on Economic Activity; 1995: 26(1):1-144.
- 507 15. Subasat, T. Does export promotion Increase Economic Growth. Development Policy
508 Review: 2002:20(3):333-349.
- 509 16. Easterly,W. Free Market and Economic Development, International Symposium, on the
510 Poverty Reduction and Beyond Development Strategies for Low Income Countries.2007.
- 511 17. Njikam, O. Export and Economic Growth in Sub Saharan Africa: Is there a Connection?
512 Cameron: Yaoundé University; 2003.
- 513 18. Hibbert, E. Management of International Trade Promotion; Rutledge, London;1990.
- 514 19. Tokarick, S. How large is the bias against exports from import tariffs? World Trade
515 Review, 2007: 6(2):193-212.
- 516 20. Oyejide Ademola T. African Trade, Investment and Exchange Rate Regimes and
517 Incentives for Exporting.2007; Accessed on Jan.20/2012. Available at
518 www.aercafrica.org.
- 519 21. Erzan, R. The Role of officially Supported Export Credit in Sub-Saharan Africa External
520 Financing. Washington DC: World Bank; 1991.

* Tel.: +251911446832.

E-mail address: ashenafizb@gmail.com.

- 521 22. Practical lessons for Africa from East Asia in Industrial and Trade Policies. Washington
522 DC: World Bank; 1996.
- 523 23. Banerjee A., Newman,A. Inequality, growth and trade policy. Mimeo: MIT; 2004.
- 524 24. Yanagihara, T Sambommatsu, S (eds.). East Asian Development Experience: Economic
525 System Approach and Its Applicability. Institute of Developing Economies: Tokyo; 1997.
- 526 25. The East Asian Miracle. Washington DC: World Bank; 1993.
- 527 26. Weiss, J. Export growth and Industrial Policy Lessons from the East Asian Miracle
528 Experience. Asian Development Bank; 2005.
- 529 27. Bright O., Dum, O. Analysis of government policies and Nigeria firms export Marketing
530 strategy. International Bulletin of Business Administration; 2010:8:6-17
- 531 28. Gujarati, D. N. Basic Econometrics.4th ed. New York: McGrawHill. 2003.
- 532 29. Tewodros M. Determinants of Export commodity concentration and trade dynamics in
533 Ethiopia. Addis Ababa: Ethiopian Economic Policy Research Institute: 2012: Working
534 paper No. 21/2012.
- 535 30. Huchet-Bourdon, M. and J. Korinek, To What Extent Do Exchange Rates and their
536 Volatility Affect Trade?, OECD Trade Policy Papers, No. 119, OECD Publishing.
537 <http://dx.doi.org/10.1787/5kg3slm7b8hg-en>; 2011.