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EXPORT PRODUCT AND MARKET DIVERSIFICATION AND ITS IMPLICATIONS ON THE PERFORMANCE OF ERITREA'S FOREIGN TRADE

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ABSTRACT: *Low level of export product diversification and high market concentration are characteristic features of the export sector of many Sub Saharan African (SSA) countries. This situation coupled with limited intra African trade has contributed to deficits in trade balance and overall poor foreign trade performance which has been of concern to policy makers in these countries. In January 2012, the African Union (AU) Summit of African Heads of State and Government endorsed the theme of 'Boosting Intra-African trade' and called on Member States, Regional Economic Communities (RECs) and the AU Commission to promote industrial development with a view to diversify economies and moving away from heavy reliance on traditional primary commodities for export. As the result, efforts have been made by many African countries to diversify exports along intensive or extensive margin. The intensive margin is related with expansion focussed more on current export products, while the extensive margin deals with creating new export products or new markets. In this paper data from Ministry of Trade and Industry (MOTI) on value of exports and imports of Eritrea for the period 2000 to 2015 are used to analyze Eritrea's foreign trade performance and the trends in trade balance. Value of Eritrean exports by commodity group and destinations for 2000, 2003, 2009 and 2014 are used to compute Normalized Harfindahl-Hirshman Index (NHHI) of export product and market diversification in COMESA region and the rest of the world. The results show, for markets, the NHHI was 0.199 in 2000, 0.123 in 2003, 0.601 in 2009 and 0.354 in 2014 indicating high market concentration of exports in 2009 compared to the other years. For products, the NHHI was 0.169 in 2009 and 0.89 in 2014 indicating high export product concentration index in 2014 explained by the dominance of new export products from the mining sector namely copper ores and concentrates, gold compounds and silver ores and concentrates. This shows that Eritrea has not made any significant breakthrough in export diversification and is yet to diversify into the higher value added activities. Above all, export sector performance has been low and the study suggests that appropriate trade policy and strategy is needed to enhance regional and global trade, expand export markets and diversify its export products through value addition and further processing of domestic and foreign raw materials.*

KEYWORDS: Export, Product Diversification, Market Concentration, Regional Integration, Eritrea

INTRODUCTION

The failure of international trade to contribute to higher economic growth and to poverty reduction in many of the Sub Saharan African (SSA) countries has been of concern for very long time to governments and people in Africa. In these countries the low state of export diversification, high market concentration and the poor performance of the export sector have been key problems of the foreign trade sector affecting negatively the process of economic development. In January 2012, the African Union (AU) Summit of African Heads of State

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and Government endorsed the theme of 'Boosting Intra-African trade' and called on Member States, Regional Economic Communities (RECs) and the AU Commission to promote industrial development with a view to diversify economies and moving away from heavy reliance on traditional primary commodities for export. To boost intra African trade and improve the situation, policy makers have given much attention to regional integration among African countries and as the result intraregional trade and investment has increased in the Common Market for Eastern and Southern Africa (COMESA). However, it has been widely argued that the export strategies followed have not been effective to bring rapid and dynamic changes in trade to narrow the gap in development between the poor and the rich nations.

Development theory indicates that there are many alternative paths or strategies to be followed by countries in the process of economic development. To a large degree, the strategy followed by a particular country at a point in time is influenced by the resource endowments of the country and the stage of development it has reached. Overall it has been well recognized that there is a price to pay for choosing a wrong development path that ignores resource endowments. History has recorded that Argentina a country well-endowed with land resources chose a development path in the 1940s and 1950s that stressed industrialization and virtually ignored agriculture. The result was that agricultural exports, previously an important component of economic growth stagnated in the 1950s and foreign exchange shortages prevented the imports of capital goods needed for industrialization (George W. Norton and Jeffrey Alwang, 1993).

Following Latin American experience a strategy of import substitution industrialization (ISI) through restrictive trade policies was also followed by many of the SSA countries. In reality, some of these countries focused on manufacturing and industrial exports while others stressed increases in basic food production and poverty reduction. However, inward looking strategies through ISI in the 1960's and 1970's failed to bring the desired growth in SSA. As the result very few or limited export items are still the major sources of foreign exchange used to import critical factors and capital goods needed for development. But there are differences among these countries as some of them generate capital for development by exporting vast oil and mineral resources while others are dependent on cash crops such as coffee, cocoa, tea, cotton, fish etc. There are also countries that have created domestic manufacturing capacity for exports through the development of Small and Medium Enterprises (SMEs) by encouraging domestic entrepreneurs and attracting foreign investment.

Development economists and UNCTAD have widely advocated for regional integration and export led strategies as a way of promoting trade and development in the developing countries. In general outward looking development strategies and the importance of export diversification has not been disputed in the case of African countries. According to Economic Commission for Africa (ECA), diversification as it is sometimes claimed is of importance not just for resource-rich countries, but it is a pre-requisite for economic growth (ECA, 2007). Thus, in Africa there are widely held arguments that favor developmental strategies which encourage export diversification because exports of most primary products are largely, adversely affected by fluctuations in world prices. Moreover many of these countries require faster and sustained economic growth in their efforts to fight poverty and export diversification is widely seen as a positive trade objective in sustaining economic growth. Delgado argues that diversifying the agricultural export base and diversifying the economy across sectors are central to the long-run growth strategies in Africa given the high concentration ratio of agricultural exports (Delgado, 1995). More importantly, as many of the

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poorer countries in Africa are highly exposed economies, export diversification builds resilience of poorer countries to external economic shocks. Export diversification has become even more relevant to African countries in recent times because of their vulnerability to global economic and financial crisis and the negative impacts on their economies.

Export expansion can be of extensive or intensive nature and the former is related to creating new products or new markets while the later deals with expansion of more on current products. In the African context export diversification has been understood largely, as the expansion of exports due to new products or new markets which is mainly of extensive margin. Pacheco and Pierola provide a useful narrower definition by discussing a geographic dimension with export diversification via the extensive margin which is the export of new products to existing markets, old products to new markets, and new products to new markets (Amurgo-Pacheco, A. and D. Pierola, 2008). Nevertheless, there are differences on whether export expansion followed should be intensive or extensive and Armington emphasizes on the export expansion through the intensive margin (Armington, P. S., 1969) while Krugman argues for the expansion of export via the extensive margin (Krugman P., 1980). Along the same line, Brenton, Newfarmer and Walkenhorst argue that low income countries focus on greater differentiation of existing products, rather than attempting to diversify directly into new export categories **(**Brenton, P., R. Newfarmer and P. Walkenhorst 2007).

There are arguments that intra industry trade based on finer specialization and product differentiation of goods within the same industry has not been characteristic feature of most trade taking place in developing countries. It is also expected that consumer preferences for variety increases as economic development increases, and richer or larger economies trade more by exporting higher volumes, larger variety and higher quality products. From this angle, While neither the intensive margin hypothesis by Armington nor Krugman‘s extensive margin hypothesis fully explain international trade patterns in developing countries. There are findings indicating that the process of diversification follows a two stage process (U-shape relationship) in which export growth in early stages of development is accompanied by diversification, until a turning point upon which the trend reverses toward increasing specialization once more (Imbs, J. and R. Wacziarg, 2003). There are few African economies that have reached the level of development associated with the turning point towards specialisation and this means that further economic growth in Africa can lead to greater diversification. Moreover, based on consumer preferences the relative growth in income levels of some African economies is expected to change consumption patterns and the basket of goods demanded. More importantly, Engel effects tell us that there will be increased demand for a greater variety of goods by consumers as their income rises in particular in those African countries that grow to middle income level. According to African Development Bank (AfDB), a rising middle class in Africa can be expected to demand a larger variety of goods (AfDB, 2011). Modern trade theory under the Specific Factors model of trade and the theory of Intra-industry trade based on differentiated goods also argues that most trade between the high income economies in similar goods is characterized by the higher demand for variety of goods and a menu with larger choices. Generally, larger and more capital abundant economies carry out more intra-industry trade (Henry Thompson, 1992).

A richer analysis of the diversification regimes in Africa is that of Ben Hammouda *et al.* which found that there is little economic diversification and despite prolonged periods of peace and stability in some African economies, they remain poorly diversified. While some African economies with deepened diversification process are indeed engaging in structural

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transformation in a sustainable manner, there are other African economies who were backsliding in the diversification process. There are also those African economies that have struggled to move into new sectors mainly due to rising commodity prices which leads to an ever increasing concentration of exports, enclave economies and Dutch disease effect. Lastly, there are those countries which went through conflicts that saw their diversification prospects negatively impacted (Ben Hammouda *et al.*, 2006). It is widely argued that conflicts and instabilities have contributed to low export diversification although there are African countries that have enjoyed relative peace and stability but have not performed well in export diversification. On the other extreme is Bhagwati's immiserizing growth theory which is a case against export expansion because growth concentrated in the export sector is said to be damaging to an economy that is highly dependent on trade if its' export goods face a declining terms of trade and low demand in the world market. Both effects of lower prices for the export goods and lower demand would have immiserizing effect on the country that becomes poorer due to growth occurring in its export sector (Bhagwati J, 1967). Thus, international trade theory suggests that export diversification and export sector strategies need to be carefully designed by understanding the trends in regional and world demand for the products produced by African countries.

Given this as background, the study deals with Eritrea's trade performance in COMESA region and the rest of the world and focuses on export product and market diversification in the case of Eritrea.

The overall objective of the study is to measure and assess the progress made in export product and market diversification in Eritrea overtime. Its specific objectives are to:

- show that there is high market concentration in Eritrea's exports to the world and to the COMESA region
- show that the progress made in export product diversification is low in Eritrea
- present the key challenges in export product and market diversification in Eritrea and provide recommendations to improve the export performance of Eritrea in the COMESA market as well as in the rest of the world market.

A priori it is expected that in Eritrea, there has been limited export product and market diversification going on although intra-COMESA and Global trade has been expanding. Moreover, the country has recently moved towards higher export product concentration mainly due to increasing dependence on exports of minerals which contributes to a lion's share of the foreign exchange earnings.

The paper has six parts. In the first part, it provides an introduction which includes background of the study, conceptual and theoretical issues, literature review and objectives of the study. In the second part, highlights are given on Eritrea's foreign trade sector with focus on exports, imports, trading partners and the balance of trade. The third part deals with the methodology that focusses on the computation of Normalized Harfindahl-Hirshman Index (NHHI) for export products and markets of Eritrea. In part four results and findings of the study are presented followed by discussion of the results and related issues in part five. Finally, in part six implications of the study to trade policies and export strategies of Eritrea are presented and conclusion and recommendations are provided.

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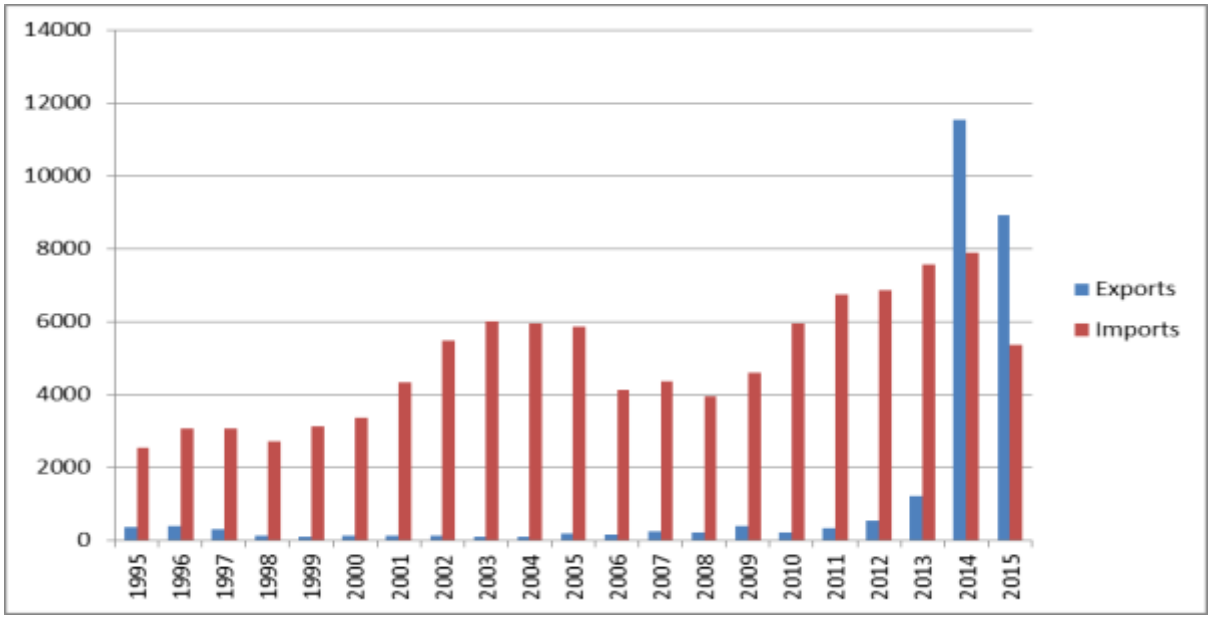
The Eritrean Foreign Trade Sector

The overall international trade situation of Eritrea can be discerned from the trends of exports, imports and trade balance overtime. Data on exports and imports of the economy for the period 1995-2015 is shown in Figure 1. In all the years from 1995 to 2013 imports exceeded exports and the country faced trade balance deficits year in year out. The persistent trade balance deficit is an indicator of low trade performance of the country. This is mainly due to low level of exports and high import dependence of the economy. Trade balance deficit reached its highest in 2012 at 6365.38 million Nakfa (423.87 mill US$) and highest surplus trade balance was recorded in 2014. According to the African Development Bank, there are binding constraints some of which are not within the control of government that have impacted the trade performance of the economy---attributed to major crop failures and shortages of foreign exchange which constrained importation of intermediate goods vital for the country's industrial base (AfDB, 2014).

Figure 1: Value of Exports and Imports of Eritrea 1995-2015 (in Million Nakfa*)



*Nakfa is the National Currency (Official exchange rate at 1US$ = 15 Nakfa)

There is low trade performance of Eritrea in both COMESA and the world market. As shown in Table 1, exports from Eritrea to the COMESA region remained low for the period 2003-2009. Total exports to the COMESA region declined significantly from about 20.3 Million Nakfa (1.3 mill US$) in 2004 to 10.4 Million Nakfa in 2005 (0.69mill US$) and 9.3 million Nakfa in 2006 (0.63mill US$) until it started picking up in 2007 reaching 22.49 million Nakfa (1.5 mill US$).

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Table 1: Eritrea's Exports to COMESA Member countries 2003 - 2009 (Value in Mill Nakfa)

COUNTRY	2003	2004	2005	2006	2007	2008	2009
Djibouti	0.56	-	0.05	1.54	19.57	22.90	6.83
Egypt	-	2.58	4.15	-	-	3.12	0.24
Kenya	0.13	-	-	-	0.28	6.95	4.67
Libya	-	-	1.17	0.47	-	-	-
Sudan	17.95	17.01	4.77	7.25	2.41	8.12	2.07
Uganda	0.55	0.63	0.26	-	-	2.18	7.67
Zambia	-	-	-	-	0.48	0.17	-
Zimbabwe	0.64	0.45	-	-	-	-	-
Total Exports to COMESA	**19.23**	**20.24**	**10.40**	**9.27**	**22.49**	**43.44**	**21.49**

Source: Ministry of Trade and Industry

It is important to note that total exports to the COMESA region declined significantly during the period 2010-2014 as well. As shown in Table 2, the average value of exports to the COMESA region in value terms during 2010-2014 was 12.13 Million Nakfa (0.81 mill US$) with exports reaching its highest in 2012 to 19.85 Million Nakfa (1.32 mill US$) and its lowest level to 6.85 Million Nakfa (0.46 mill US$) in 2014. The decline in exports to COMESA region is largely due to persistent low productive capacity, limited investment in export industries leading to low quality of products produced and loss of competitiveness in traditional export commodities. Moreover this is mainly attributed to declining capacity of most of the manufacturing industries including sectors like textiles, leather as well as livestock and fisheries which is explained among others by power shortages, declining production, shrinking demand and loss of competitiveness. However, in 2014 exports to the rest of the world reached highest record equal to 11,518.57 Million Nakfa (767.9 mill US$) due to increased exports from the mining sector.

Table 2: Eritrea's Exports to COMESA, Africa and Others 2010-2014 (in Million Nakfa)

Year	Value of Exports to COMESA	Value of Exports to Total Africa	Value of Exports to others	Overall total
2010	15.14	18.53	200.49	**219.02**
2011	14.83	15.00	324.76	**339.76**
2012	19.85	24.40	522.29	**546.70**
2014	**6.85**	8.99	11518.47	**11527.46**
Total	56.67	66.53	12566.01	12632.88
Average 2010-2014	**12.13**	20.47	3137.77	3158.23
Percent share of world	0.38	0.65	99.0	
Percent share of Africa	59.3	100.0		

Source: Customs Office, Ministry of Trade and Industry

The trend of Eritrean imports from COMESA and the world during the period 2003 to 2015 is shown in figures 2 and 3. In general Eritrean imports were characterized by significant

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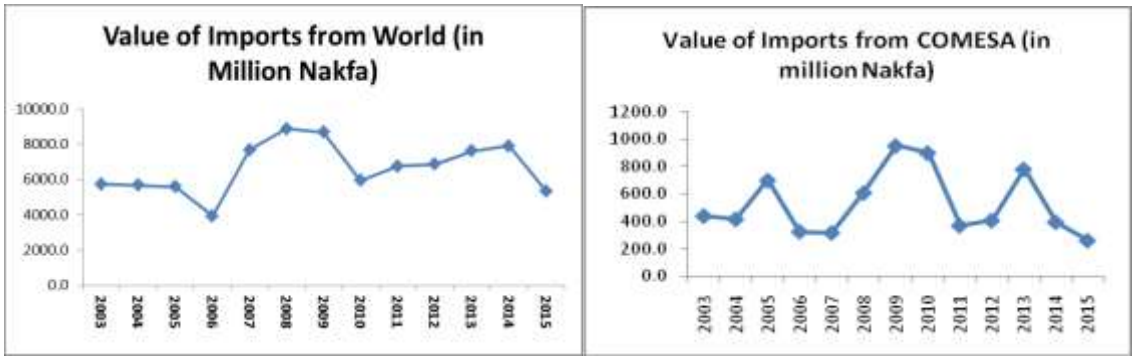
fluctuations showing certain pattern of increase in some years and decline in others. The main reasons for fluctuations in imports are the ups and downs of economic growth, limitations in export capacity and shortages of foreign exchange. The import sector was characterized by high demand for foreign currency such as US$ and Euro which led to the persistence of high parallel exchange rate compared to the official exchange rate for long period of time.

Figure 2: Trend of imports from the world **Figure 3: Trend of Imports from COMESA**



Source: Customs office; Ministry of Trade and Industry (2003-2015), Asmara, Eritrea

The trend of imports from COMESA and the world show similar patterns and imports from COMESA member countries and the world showed relative maximum during 2005, 2009 and 2013. Moreover, good economic prospects in the country due to investments in the mining sector and growth in exports of gold and copper contributed to increased foreign exchange earnings of the country and as the result, Eritrea's imports from COMESA and from the rest of the world started to peak up in the years 2012, 2013 and 2014. But in 2015, imports from the world declined and value of imports from COMESA reached its lowest level at about 262.8 Million Nakfa (17.5 mill US$). The decline of imports to a large degree was due to the tight import permit regulations introduced, restrictions imposed on private traders and Franco-Valuta imports.

METHODOLOGY

Data from the MOTI on Eritrea's exports by commodity groups and destinations for the period 2003-2008 and 2009-2014 is used to assess the progress made in export diversification overtime. NHHI is used to measure the extent of export product and market concentration for Eritrea (Hirshman,1964; ECA and AUC, 2007). The following formulas are applied:

For products:

$$HHI^{i}{}_{products} = \sqrt{\sum_{p=1}^{P}\left(\frac{X^{i}_{p}}{\sum_{p=1}^{P} X^{i}_{p}}\right)^{2}}$$

Where: X_p^i*: country's i exports of product p to the world;*

p: any traded product; taking value p = 1 to P (i.e. total number of traded products);

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HHI^i: Herfindahl-Hirschman index for country i; taking values from 1/P to 1;

By convention HHI^i < 0.01: high diversification; 0.01 <= HHI^i < 0.15: fair diversification; 0.15 <= HHI^i <= 0.25: moderate diversification; HHI^i > 0.25: low diversification (or high concentration)

For markets:

$$HHI^{i}{}_{markets} = \sqrt{\sum_{m=1}^{M}\left(\frac{X^{i}_{m}}{\sum_{m=1}^{M} X^{i}_{m}}\right)^{2}}$$

where: X_m^i: country's i exports to market (i.e. country) m;

m: any markets of destination for which there is trade taking place; taking value m = 1 to M (i.e. total number of markets of destination for which there is trade taking place);

HHI^i: Herfindahl-Hirschman index for country i; taking values from 1/M to 1;

The normalized version of the indices are as follows:

$$NHHI^{i}{}_{products} = \frac{HHI^{i} - \sqrt{\frac{1}{P}}}{1 - \sqrt{\frac{1}{P}}} \quad or \quad NHHI^{i}{}_{markets} = \frac{HHI^{i} - \sqrt{\frac{1}{M}}}{1 - \sqrt{\frac{1}{M}}}$$

with: $NHHI^i$: Normalized Herfindahl-Hirschman index for country i; taking values from 0 to 1;

- *Value close to 0 show high diversification, while value close to 1 show high concentration*

RESULTS AND FINDINGS

Eritrea's exports and imports from 2000 to 2015 show trade balance deficits year after year until it was reversed in 2014 with large trade surplus recorded due to exports from the mining sector. However, exports by commodity groups and destinations for the period 2003 to 2008 and 2009 to 2014 used to compute Normalized Harfindahl-Hirshman Index (NHHI) show that market diversification is low for Eritrean exports. The computed NHHI value for market diversification was 0.199 in 2000, 0.123 in 2006, 0.601 in 2009 and 0.354 in 2014 (See Annex1 and Annex 2). The results show that market concentration of Eritrean exports was high in 2009 compared to the other years. The share of Eritrean exports to major markets during the selected periods shows that in 2009 only three export markets namely UAE, Italy and Saudi Arabia took a share of 78.7% of total Eritrean exports. More importantly a single export market namely UAE was the destination for 56.9% of total Eritrean exports in 2009.

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Some of the markets lost (no exports from Eritrea) in 2009 compared to 2000 and 2003 include Israel, Singapore, USA, Switzerland, South Africa, Zambia and Zimbabwe. It is important to note that the leading market for exports of Eritrea has been changing over the period of study. Sudan was the major market for exports in 2003 accounting for 16.4 percent in 2003, Taiwan for 29.5 percent in 2006, UAE for 56.9 percent in 2009 and China for 26.9 percent in 2014.

Table 3: Leading markets for Eritrean exports and share of total exports for selected years

Country	2003	2006	2009	2014
Sudan	16.4			
Singapore	14.5			25.1
Italy	13.2	23.7	13.3	
Netherlands	12.2			
Greece	7.6			
India	7.4			18.4
UAE			56.9	7.7
Saudi Arabia		12.8	8.5	
Taiwan		29.5		
Switzerland				22.3
China				26.9
Total	**71.3**	**66**	**78.7**	**100.4**

Export products were found to be more diversified in 2009 and the NHHI for products exported was 0.169 compared to 0.89 in 2014 which shows that the economy has moved towards higher export product concentration in recent times. The high NHHI in 2014 which is a value closer to 1 representing extreme product concentration is explained by the dominance of new export products from the mining sector namely copper ores and concentrates, gold compounds and silver ores and concentrates. Similar findings by Siope V. Ofa etal using normalized-Hirschman Index in 1998 against that in 2009 show Eritrea is among some African economies that have managed to significantly diversify exports over the 12 year period (Siope V. Ofa etal, 2012). But after 2009 the export sector has moved towards more concentration which is mainly the result of the dominance of minerals exports due to the recent expansion of mining activity in the country. Eritrea's export products are not diversified and there is heavy dependence on few export products, (See Annex 3 and Annex 4).

DISCUSSION

In general, Africa lags behind other regions in terms of export diversification and many African countries were actually moving toward further concentration in the products they exported over a long period of time. To a large degree, this has been due to the role of fuel and mineral resources in Africa's total exports which remains to be considerably high. This seems to best explain the recent situation in Eritrea where the mining sector is the dominant export sector of the country. Until recently, the rising prices of fuel and minerals relative to non-oil exports have been the explanatory factors for high export concentration in African

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countries. But, due to regional integration an encouraging upsurge in efforts to boost intra-African trade has been observed and the share of intra-African exports has been rising reaching to about 16 per cent of total exports in 2014. Although intra-African trade remains lower than optimal, intra-African trade has been more diversified due to higher share of trade in manufactured goods (34 per cent) compared to primary commodities (11 per cent) exported within the continent**.** But, Eritrean exportable commodities have been limited both in volume and value terms and like many other small economies, Eritrea has limited capacity to export a large variety of goods. Eritrea's past comparative advantages of manufacturing and exports of light industrial products suffered from a wave of de-industrialization that took place over a long period of time. Despite significant efforts made after independence to revive the industrial base, through privatization measures of some industries and preferential treatment of foreign exchange for imports, the industrial sector currently faces significant challenges and most of the manufacturing industries are unable to be competitive both regionally and internationally. According to the manufacturing value added (MVA) compounded rate of growth calculated by the UN Industrial Development Organization and the UN Conference on Trade and Development, Eritrea is among the six COMESA Member States (Eritrea, Ethiopia, Djibouti, Malawi, Rwanda and Burundi) that have a manufacturing sector in the lowest of five categories (Ministry of Trade and Industry, 2011). *AfDB r*eport also indicates that exports are projected to grow in 2014, driven by the onset of copper and gold mines. This may be offset by growth in imports as investments in mining boost demand for imported capital goods. Apart from the growth in mining exports, the economy has not significantly diversified from dependence on traditional sources of revenue (AfDB, 2013).

There is also high market concentration for Eritrean exports despite the efforts made to diversify to alternative new markets since 2000. Eritrea's exports to COMESA as share of Eritrea's exports to the world remained very low during the period at below 1 percent. Exports to COMESA region did not expand for most of the period 2003-2014, although Eritrean exports to COMESA as share of exports to Africa was 59.3 percent. Moreover, it is important to note that market concentration was high and exports from Eritrea were destined to very few COMESA Member States as shown in Table 4. About 56.0 percent of the total Eritrean exports to COMESA during the four years was directed to six member states, largest share was to Kenya, then to Sudan and Uganda. During the same period exports from Eritrea to Egypt, Djibouti and Zambia was very limited. It is notable that Eritrea has not been able to expand its exports to the COMESA region and take full advantage of her membership in COMESA.

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Table 4: Eritrea's Exports to major COMESA trading partners (value in Million Nakfa)

Country	2010	2011	2012	2014	Total
Kenya	2.54	10.12	2.48	-	15.13
Sudan	4.66	1.55	6.30	1.78	14.28
Uganda	2.60	2.64	7.25	0.00	12.49
Egypt	2.07	0.01	0.02	4.05	6.16
Zambia	2.07	0.52	2.39	-	4.98
Djibouti	1.51	-	1.35	-	2.86
SubTotal	15.14	14.84	19.99	5.83	**55.9**
Others	203.88	324.92	324.65	11521.63	12576.98
Total Exports	**219.02**	**339.76**	**546.64**	**11,527.46**	**12632.88**

Source: Ministry of Finance, Customs Office

Table 5 presents value of Eritrea's exports to the world and the percent share of total exports from Eritrea to ten major countries in 2014. China was the largest market for Eritrea's exports which made up 26.9 percent of total exports. The share of total exports to Singapore was 25.1 percent, to Switzerland 22.3 percent and to India 18.3 percent. Total exports to the four countries constitutes 92.6 percent of the total exports of the country in 2014 while the share of Eritrean exports to COMESA as a block remained at less than 1percent which is indicative of high market concentration for exports.

Table 5: Value and Percent share of total exports of Eritrea to ten major countries (2014)

Rank	Country	Value of exports in Million Nakfa	Share of total value of exports
1	China	3,104.53	26.9
2	Singapore	2,896.46	25.1
3	Switzerland	2,568.52	22.3
4	India	2,110.05	18.3
5	Germany	496.00	4.3
6	UAE	194.18	1.3
7	Hong Kong	78.46	0.7
8	Italy	50.16	0.4
9	Saudi Arabia	11.62	0.1
10	Pakistan	3.06	0.02
11	Other countries	**20.54**	7.1
	Total Exports	**11,527.46**	**100.0**

Source: Ministry of Trade and Industry

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In terms of commodity composition of exports in 2014, minerals and other concentrates make up the single most important export item with 98.5 percent share of the total value of exports. Other exports are cotton shirts and other cotton products (1 percent), live fish, fresh, chilled or frozen (0.8percent) and raw skins and other hides and skins (0.1 percent) and live animals (0.08 percent). This shows that no significant export product diversification has taken place in Eritrea and the country's export sector remains vulnerable and undeveloped. The policy challenges of diversifying production and trade are related to small national markets whether measured by population or aggregate purchasing power and the economic principle illustrating the diversification dilemma where specialization is limited by the size of the internal market. Another important constraint is technological gap and high cost of production which leads to low international competitiveness of Eritrean products.

Overall the issue whether multilateral trade provides a better avenue for achieving export diversification than does regional trade is less important for Eritrea. This is because, among others, regional integration can overcome the limitations of small internal markets and expand trade with African countries. A the same time multilateral trade provides opportunities on new technologies to develop new and superior products and creates a more challenging platform for learning and competing in the world market. It is then important to undertake new export activities if Eritrea is to succeed in diversifying its exports, but it should be in industries in which there is already existing expertise. In practice the dichotomy between intensive and extensive expansion is of little use as export growth and diversification requires the upgrading of production of existing exports and the undertaking of new export activities. This implies that Eritrea needs to explore dynamic comparative advantages when promoting diversification. The role of developing the manufacturing sector therefore is of crucial importance while the quality of institutions also matters for diversification.

CONCLUSION AND POLICY IMPLICATIONS

Market concentration of Eritrean exports was high in 2009 compared to the other years as shown by the values of the NHHI which was 0.199 in 2000, 0.123 in 2006, 0.601 in 2009 and 0.354 in 2014. On the other hand export product diversification improved in 2009 as shown by NHHI which was 0.169. However, the NHHI for products exported was 0.89 in 2014 which shows that the economy has moved towards further concentration. The high export product concentration index in 2014 is explained by the dominance of new export products from the mining sector namely copper ores and concentrates, gold compounds and silver ores and concentrates. Similar findings by Siope V. Ofa etal using normalized-Hirschman Index in 1998 against that in 2009 show Eritrea is among some African economies that have managed to significantly diversify exports over the 12 year period (Siope V. Ofa etal, 2012) These include Burundi, Central African Republic, Comoros, Democratic Republic of the Congo, Egypt, Eritrea, Ethiopia, Gambia, Mali, Rwanda, Sierra Leone and Uganda.. This indicates that some efforts have been made towards extensive diversification while no significant intensive diversification has taken place in the export sector.

The study concludes that Eritrea is among the countries that have started the process but have not made any significant breakthrough in diversifying agricultural products and are yet to diversify into the higher value added activities. Findings have important policy implications and indicate two main points that need to be considered; first, policies and strategies of export diversification and intra-industry trade should not be treated in isolation and second,

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identification of constraints in export diversification and intra-industry trade in Eritrea are crucial to better understand and subsequently develop effective export diversification program of actions. This implies that any future trade policy and strategy that favors export diversification should focus on expanding both new and existing export products and markets of Eritrea. To this effect, Eritrea has to enhance regional and global trade, expand its export markets and diversify its export products through integrated development strategies that encourage value addition and further processing of domestic and foreign raw materials. Policies need to focus on integrated industrial development among others to encourage development of fishery, livestock, agro-processing, manufacturing and mining in the country. Finally, there is no one-cap-fits-all model, this study then suggests a reassessment of Eritrea's trade and export policy with a view to identifying the best route to structural transformation and also tailor trade policy to achieve the desired export product and market diversification.

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Annex 1: Market Concentration of Exports in 2003 and 2014

Trading Partner	**Value in Nakfa (2003) X^i_m**	**$X^i_m/\sum X^i_m$**	**$(X^i_m/\sum X^i_m)^2$**	**Value in Nakfa (2014) X^i_m**	**$X^i_m/\sum X^i_m$**	**$(X^i_m/\sum X^i_m)^2$**
Belgium	0	0	0	9,157.30	7.9439E-07	6.31056E-13
China	675,717.00	0.008581554	7.36431E-05	3,104,526,455.29	0.269315729	0.072530962
Djibouti	563,333.00	0.007154286	5.11838E-05	0	0	0
Egypt	0	0	0	4,053,937.67	0.000351677	1.23676E-07
France	884,040.00	0.01122724	0.000126051	605,162.08	5.24974E-05	2.75598E-09
Germany	1,955,240.00	0.024831399	0.000616598	496,038,127.37	0.043030997	0.001851667
Greece	5,968,720.00	0.075802288	0.005745987	0	0	0
Hong Kong	2,602,446.00	0.033050865	0.00109236	78,463,393.77	0.00680665	4.63305E-05
India	5,821,605.00	0.073933938	0.005466227	2,110,051,964.74	0.183045689	0.033505724
Israel	1,987,443.00	0.025240374	0.000637076	40,477.33	3.51138E-06	1.23298E-11
Italy	10,412,90.007	0.025240374	0.000637076	50,159,211.42	0.00435128	1.89336E-05
Kenya	124,606.00	0.001582487	2.50426E-06	0	0	0
Netherlands	9,567,180.00	0.121502455	0.014762846	426,901.00	3.70334E-05	1.37147E-09
Pakistan	2,065,282.50	0.02622893	0.000687957	3,059,209.11	0.000265384	7.04289E-08
South Africa	1,168,662.00	0.014841918	0.000220283	487,319.95	4.22747E-05	1.78715E-09
Saudi Arabia	571,410.00	0.007256863	5.26621E-05	11,557,675.68	0.001002621	1.00525E-06
Singapore	11,388,645.00	0.144634921	0.02091926	2,896,463,843.13	0.251266428	0.063134818
Spain	86,.060.00	0.0011	0.00000121	1,544,355.22	0.000133972	1.79485E-08
Sudan	12,892,353.00	0.163731897	0.026808134	1,781,696.98	0.000154561	2.38891E-08
Sweden	30,750.00	0.000390523	1.52508E-07	840,302.46	7.28957E-05	5.31378E-09
Switzerland	13,945.00	0.0001771	3.13646E-08	2,568,597,409.28	0.222824219	0.049650633
Uganda	546,805.00	0.006944382	4.82244E-05	756	6.55825E-08	4.30107E-15
UAE	146,755.00	0.001863777	3.47367E-06	194,179,592.26	0.016844958	0.000283753
UK	2,387,040.00	0.030315226	0.000919013	59,639.41	5.17368E-06	2.6767E-11
USA	985,326.00	0.012513565	0.000156589	83,689.95	7.26005E-06	5.27083E-11
Viet Nam	1,418,876.00	0.018019617	0.000324707	627,339.04	5.44213E-05	2.96167E-09
Yemen	1,861,455.00	0.023640336	0.000558865	0	0	0
Zambia	0	0	0	487,147.50	4.22597E-05	1.78589E-09
Zimbabwe	50,635.00	0.000643061	4.13527E-07	156,900.00	1.3611E-05	1.85259E-10
Grand Total	**78,740,631.50**	1	**0.079912529**	**11,527,460,593.98**	1	**0.221024078**
HHI		**SQRT(0.079)**	**0.283**		**SQRT(0.221)**	**0.47**
NHHI			**0.127**			**0.354**

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Annex 2: Market Concentration of Exports in 2000 and 2009

Country	Value in Nakfa (2000) X^i_m	$X^i_m/\sum X^i_m$	$(X^i_m/\sum X^i_m)^2$	Value in Nakfa (2009) X^i_m	$X^i_m/\sum X^i_m$	$(X^i_m/\sum X^i_m)^2$
Belgium	228,140.00	0.00212596	4.51971E-06	31,470	8.52864E-05	7.27377E-09
China	688,607.00	0.006416897	4.11766E-05	15,639,000.00	0.042383037	0.001796322
Djibouti	0	0	0	6,834,948.75	0.0185233	0.000343113
Egypt	194,000.00	0.001807821	3.26822E-06	6,834,948.75	0.0185233	0.000343113
France	8,086,241.00	0.075352963	0.005678069	828,850.00	0.002246255	5.04566E-06
Germany	4,575,446.00	0.042637044	0.001817918	971,480	0.002632794	6.93161E-06
Greece	0	0	0	0	0	0
Hong Kong	496,329.00	0.004625123	2.13918E-05	530,000.00	0.001436346	2.06309E-06
India	6,425,504.00	0.059877113	0.003585269	830,000.00	0.002249372	5.05967E-06
Israel	256,564.00	0.002390834	5.71609E-06	0	0	0
Italy	10,412,970	0.097034969	0.009415785	51,347,490	0.139156121	0.019364426
Kenya	1,236,605.00	0.011523507	0.000132791	4,668,878.34	0.012653063	0.0001601
Netherlands	9,272,099.00	0.086403575	0.007465578	1,102,500	0.00298787	8.92737E-06
Pakistan	1,358,292.00	0.012657467	0.000160211	6,150,000.00	0.01666703	0.00027779
South Africa	653,385.00	0.006088675	3.7072E-05	0	0	0
Saudi Arabia	17,443,983.00	0.162554617	0.026424003	32,075,800	0.086928181	0.007556509
Singapore	90,326.00	0.000841718	7.08489E-07	0	0	0
Spain	0	0	0	0	0	0
Sudan	21,784,575.00	0.203003135	0.041210273	2,073,726.27	0.005619977	3.15841E-05
Sweden	15,100.00	0.000140712	1.97998E-08	886,040	0.002401245	5.76598E-06
Switzerland	152,335.00	0.001419559	2.01515E-06	0	0	0
Uganda	187,590.00	0.001748088	3.05581E-06	7,673,588.50	0.020796086	0.000432477
United Arab Emirates	215,322.00	0.002006513	4.0261E-06	219,140,000.00	0.593888278	0.352703286
United Kingdom	17,156,017.00	0.159871158	0.025558787	1,083,240	0.002935674	8.61818E-06
USA	837,699.00	0.007806236	6.09373E-05	0	0	0
Viet Nam	1,011,740.00	0.009428065	8.88884E-05	0	0	0
Yemen	4,322,911.00	0.040283755	0.001622781	10,290,000.00	0.027886786	0.000777673
Zambia	104,825.00	0.000976829	9.54195E-07	0	0	0
Zimbabwe	104,915.00	0.000977668	9.55834E-07	0	0	0
Grand Total	**107,311,520.00**	1	0.123346171	**368,991,961**	1	0.383828811
HHI		**SQRT(0.123)**	**0.35**		**SQRT(0.384)**	**0.62**
NHHI			**0.199**			**0.601**

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Annex 3: Export Product Diversification in 2009

S.No.	Description	Value in Nakfa	$X^i_m/\sum X^i_m$	$(X^i_m/\sum X^i_m)^2$
1	Live Animals; Animal Products	36832519.89	0.098965392	0.009794149
2	Vegetable Products	7613864.95	0.020457713	0.000418518
3	Prepared Foodstuffs, Beverages---- Tobacco	25450265.44	0.068382384	0.00467615
4	Mineral Products	2,209,445.30	0.005936564	3.52428E-05
5	Products of the Chemical or Allied Industries	1,135,912.05	0.003052085	9.31522E-06
6	Plastics, rubber and Articles thereof	1,728,395.07	0.004644029	2.1567E-05
7	Raw Hides and Skins, Leather, Fur Skins and	26525155.05	0.071270507	0.005079485
8	Wood Cork and Articles thereof, Wood Charcoal	1,990,012.50	0.00534697	2.85901E-05
9	Pulp of Wood Waste and Articles of Paper and Paper Products	3131800.51	0.008414843	7.08096E-05
10	Textiles and Textiles Articles	56,663,564.19	0.152249476	0.023179903
11	Footwear, Umbrellas, Walkng Sticks---Artificial	1,345,381.85	0.00361491	1.30676E-05
12	Articles of Stone, Plaster, Cement ---Ceramics, Glass	1508181.45	0.004052337	1.64214E-05
13	Pearls, Precious, Semiprecious stones	192,438,630.34	0.51706385	0.002095317
14	Base Metals and Articles of Base Metals	2,890,362.28	0.007766122	6.03126E-05
15	Machineries, Electrical Equipment --- Sound	8,382,383..41	0.0225	0.00050625
16	Vehicles, Aircrafts, Vessels and Associated transport	1.096.415..25	0.00295	8.7025E-06
17	Optical Photographis, Measuring ------ Medical	7,249,574.30	0.0194789	0.000379428
18	Miscellaneous Manufactured Articles	3,462,693.00	0.009303919	8.65629E-05
19	**Total**	**372175758.2**	**1**	**0.046479791**
	HHI		**SQRT(0.0465)**	**0.216**
	NHHI			**0.169**

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Annex 4: Export Product Diversification in 2014

	Description	Value in Nakfa in 2014	$X^i_m/\sum X^i_m$	$(X^i_m/\sum X^i_m)^2$
1	Live animals; animal products.	43,192,944.81	0.003746961	1.40397E-05
2	Vegetable products	20,147,176.94	0.001747755	3.05465E-06
3	Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes		0	0
4	Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes	1,820,882.33	0.00015796	2.49515E-08
5	Mineral products	10,346,049,984.99	0.897513368	0.805530246
6	Products of the chemical or allied	843,420,580.23	0.073166208	0.005353294
7	Plastics and articles thereof; rubber and articles thereof	36,546.18	3.17036E-06	1.00512E-11
8	Raws hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	19,522,049.27	0.001693526	2.86803E-06
9	Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork	186,060.26	1.61406E-05	2.60519E-10
10	Pulp of wood or of other fibrous cellulosic material; waste and scrap of paper or paperboard; paper and paperboard and articles thereof	212,267.55	1.84141E-05	3.39078E-10
11	Textiles and textiles articles	44,518,222.71	0.003861928	1.49145E-05
12	Footwear, headgear, umbrellas, sun umbrellas, walking sticks, seat sticks, whips, riding-crops and parts thereof; prepared feathers and articles made therewith; artificial flowers; articles of human hair	167,030.39	1.44898E-05	2.09954E-10
13	Articles of stone, plaster,cement,asbestos, mica or similar materials; ceramic products; glass and glassware	600,158.41	5.20634E-05	2.71059E-09
14	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal and articles there of; imitation jewellery; coin	187,517,941.05	0.016267064	0.000264617
15	Base metals and articles of base metal	12,399,741.90	0.00107567	1.15707E-06
16	Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts and accessories of such articles	1,119,763.79	9.71388E-05	9.43595E-09
17	Vehicles, aircraft, vessels and associated transport equipment	2,574,244.16	0.000223314	4.98692E-08
18	Optical, photographic, cinematographic, measuring, checking,	2,113,077.71	0.000183308	3.36019E-08
19	Arms and Ammunition; parts and accessories		0	0
20	Miscellaneous manufactured articles	1,860,921.30	0.000161434	2.60609E-08
21	Works of art, Collector's pieces and antiques	1,000.00	8.67494E-08	7.52545E-15
	Total	**11,527,460,593.98**	1	0.811184339
	HHI		**SQRT(0.811)**	**0.90**
	NHHI			**0.894**

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