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The Horn Economic and Social Policy Institute

ANNUAL REPORT ON THE STATE OF IGAD ECONOMIES,
TRADE PERFORMANCE AND PROSPECTS
2013

July, 2014

I. Overview

The focus of this annual report is to highlight the current state of the economies of IGAD member states and as a special theme, this year's report assesses IGAD's trade potential both among member states and with the rest of the world. To do that, part I will update the performance of the macro economies of member states while Part II outlines the trade sector of IGAD economies. Part I will discuss macroeconomic performance as measured by growth of GDP, developments in the financial sector (both monetary and finance) and highlight internal and external balance as measured by external balance on goods and services and current account balance. It will also highlight relevant financial flows in the form of foreign direct investment, aid and personal remittances.

As a special of theme of this year's annual report, part II will delve in analyzing the current state of trade in IGAD member countries with the rest of the world and evaluates the existing level of intra-regional trade to assess the extent of progress made in expanding trade in the region. This will include assessing the trade potential by computing various indicators. Starting from simple indices that identify most traded, composition and similarity of goods traded in IGAD member countries to various indices that systematically compute trade diversification, similarity, intensity indices and revealed comparative advantage. These indices are expected and used to show how much potential these countries have to further expand intra-regional trade. It further presents the current state of tariff and non-tariff barriers in IGAD member countries which is followed by summary and conclusions.

1. The Recent Economic Performance of IGAD Economies

IGAD member countries are among the least developed as measured by GDP per capita income, improvements in health and education, access to road and communication. Though variation among member countries is significant, all lag behind most regions in the world. Despite the potential to excel in tourism, in utilizing their natural resources, young labor force and sizable diaspora, they have yet to embark on a stable growth path.

Despite low level of economic development by other regions' standards, unexploited potential relative to endowment in natural resources and weak socio-economic and physical infrastructure, IGAD member countries aspire to fast-track their economies using both sound domestic policies and regional cooperation that culminates in regional economic integration. The overall recent macroeconomic picture is positive but with huge variations across the countries. The growth path and the stability of that path of most countries in the region is good but the regional economic (and particularly the socio-political) picture leaves a lot to be desired.
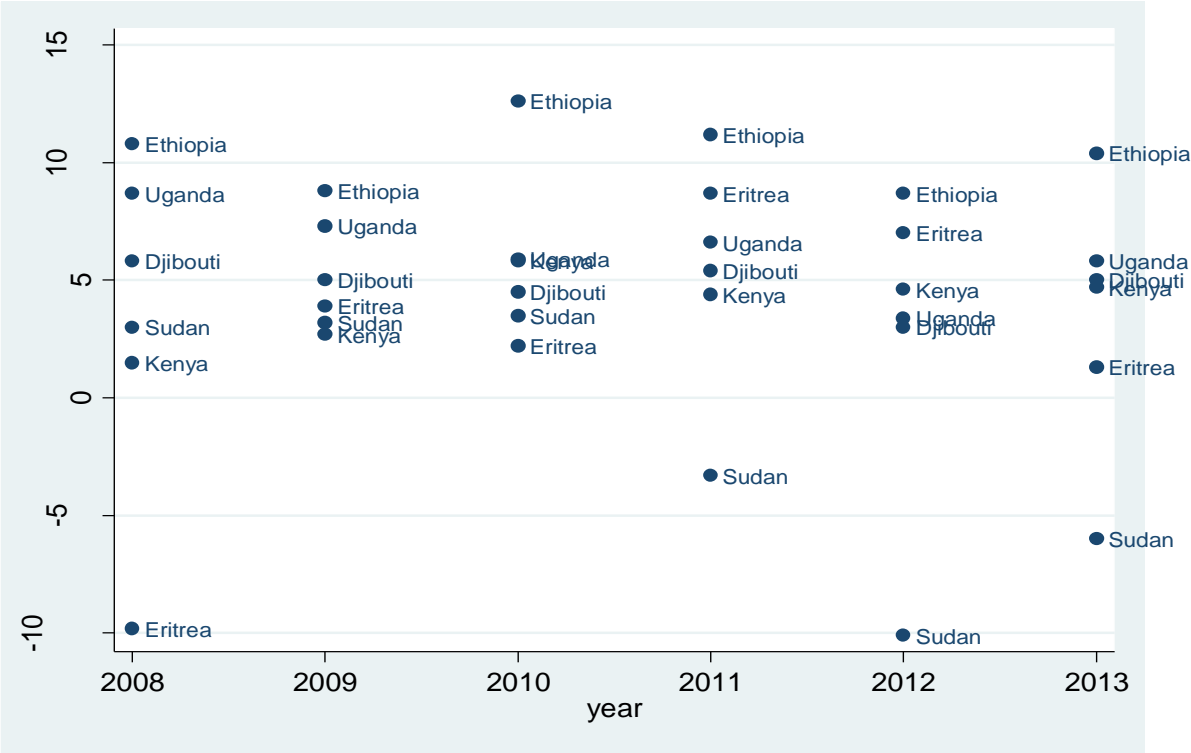
1.1. Economic Growth

The economies of IGAD member countries are varied. Some are making significant progress towards maintaining a sustainable growth trajectory (Djibouti, Ethiopia, Kenya and Uganda) while others are in the process of recovering from political instability and social upheaval that have impacted the economic scene (Eritrea, Somalia and Sudan) in the last twenty years or so. But despite the hopeful signs in some of the countries, the region lags behind other regions in Africa and in the world in terms of overall economic and social developments. Arguably, the inter- and intra-state conflicts, the political instability that followed, lack of good governance, misguided economic policies, drought and famine are believed to have contributed to the poor economic performance.

In the past ten years, Ethiopia and Uganda registered impressive economic growth thanks to public infrastructure development and foreign direct investment while Sudan had remarkable economic growth mainly because of the oil revenue until 2010 (though that

was reversed following   the secession of South Sudan from the Sudan). Since 2011 both the Sudan and South Sudan experienced contraction in output (see figure 1).

In terms of future outlook, most economies in the IGAD region (except Eritrea and the Sudan) are projected to grow at higher rates than the Sub-Saharan average of 5.4 and 5.5 percent in 2014 and 2015. Economic growth in Djibouti, Ethiopia, Kenya and Uganda is expected to exceed 6 percent per annum in 2014 and 2015 (IMF, 2014). On the other hand, Eritrea and the Sudan are projected to grow at 2.3 and 2.7 in 2014, respectively. Such growth performance for the latter two economies is expected to continue until 2019.

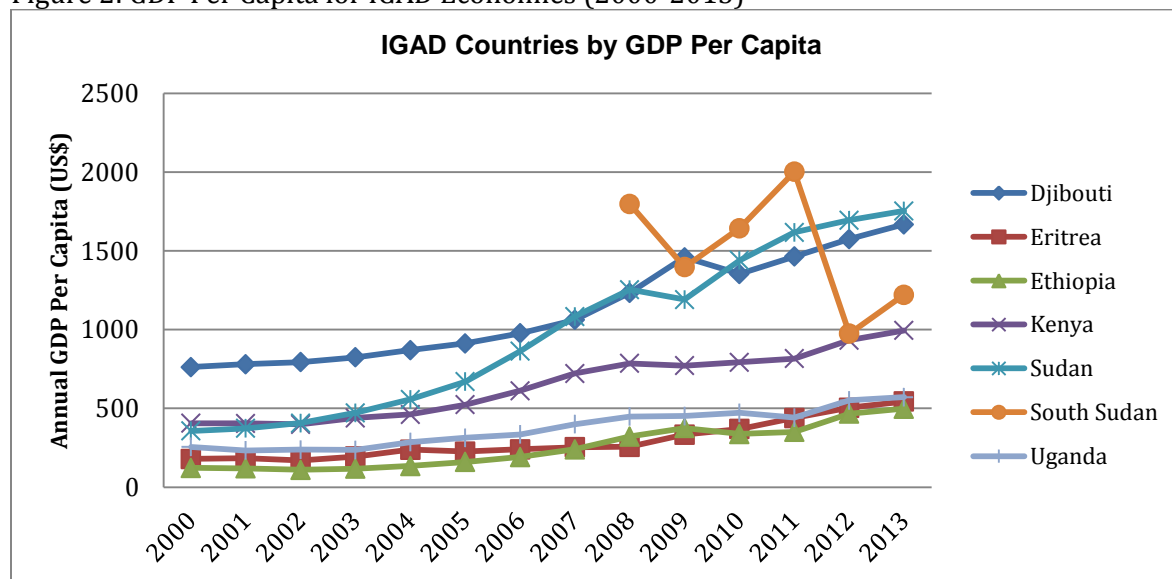Figure 1: Annual average GDP Growth (%) for IGAD countries in 2008-2013

Source: World Development Indicators (2014)

In terms of per capita income, all IGAD countries except the Sudan and Djibouti are low income countries. In a span of ten years, Sudan has managed to achieve and join the lower middle income group; in 2012 the Sudanese GDP per capita income was US$ 1,580 jumping from US$ 407 in 2002.

Figure 2: GDP Per Capita for IGAD Economies (2000-2013)

Source: World Development Indicators (2014)

The GDP and GDP per capita of the newly independent state of South Sudan experienced high swings which is heavily dependent on oil exports. In 2011 when South Sudan seceded from Sudan its GDP per capita was recorded to be the highest among the IGAD region with US$ 1,844. But following the conflict with the Sudan in 2012 over oil pipelines and subsequent fall in production and export of oil, South Sudan's GDP per capita income plummeted to US$943.

1.2 Monetary Developments and Inflationary Pressure in IGAD

Inflation eased in most IGAD economies in 2013 after it peaked in 2011. In 2012 and 2013 inflation slowed down in all IGAD economies except in South Sudan and the Sudan after its peak in 2011. The Sudan had the highest annual consumer price changes in 2012 with 37.4 percent followed by Ethiopia with 23 percent among IGAD states. Kenya and Djibouti managed to keep inflation in single digits with 9.4 and 7.9 percent, respectively, in 2012. In 2011 when most countries experienced drought and famine, annual consumer price changes were double digits in all economies except Djibouti.   Exchange rates depreciation in Kenya and Uganda in 2010 compounded the inflationary pressures (IMF, 2014).

Table 1: Inflation, consumer prices (annual %)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Djibouti	3.1	3.5	5.0	12.0	1.7	4.0	5.1	3.7	3.5
Ethiopia	12.9	12.3	17.2	44.4	8.5	8.1	33.2	22.8	8.1
Kenya	10.3	14.5	9.8	26.2	9.2	4.0	14.0	9.4	5.7
Sudan	8.5	7.2	8.0	14.3	11.2	13.2	22.1	37.4	
South Sudan					5.0	1.2	47.3		
Uganda	8.4	7.3	6.1	12.1	13.0	4.0	18.7	14.0	5.5
Sub-S. Africa	7.0	6.6	7.1	10.6	7.1	4.5	6.1	6.4	5.2

Source: World Development Indicators, the World Bank (2014)

The recent reduction in inflation, registered in most IGAD economies in 2013, generally reflected good local harvests, well focused monetary policies and, in some cases, the appreciation of local currencies (Trevino and Yabara, 2013). In Kenya, for example, in 2012 the Kenyan shilling appreciated by around 4 percent against USD.

Table 2: Broad Money as percentage of GDP

	2005	2006	2007	2008	2009	2010	2011	2012
Djibouti	77.6	79.5	78.3					
Eritrea	129.2	123.9	127.7	141.3	121.5	123.2	114.7	
Ethiopia	44.6	43.2	40.4	34.6				
Kenya	38.9	39.7	42.3	42.5	44.1	50.1	51.0	50.6
Sudan	20.8	23.3	21.5	20.2	23.3	23.7	24.5	27.9
Sub-S. Africa	41.6	42.5	45.6	45.2	49.2	47.9	47.9	47.1
Uganda	19.3	19.9	20.9	23.6	22.6	26.9	27.0	24.2

Source: World Development Indicators, the World Bank (2014)

Table 3: Money and quasi money growth (annual %)

	2005	2006	2007	2008	2009	2010	2011	2012
Djibouti	11.3	11.2	8.6	20.6	17.5	12.2	-4.5	15.0
Eritrea	10.7	5.8	12.1	15.9	15.7	15.6	14.7	---
Ethiopia	18.6	20.0	22.2	23.4	---	---	---	---
Kenya	9.9	17.0	20.4	15.5	16.5	22.4	19.2	14.4
Sudan	43.4	32.2	10.6	16.2	23.7	25.4	17.9	40.2
Uganda	17.2	16.9	22.0	30.8	17.5	38.1	12.4	14.9

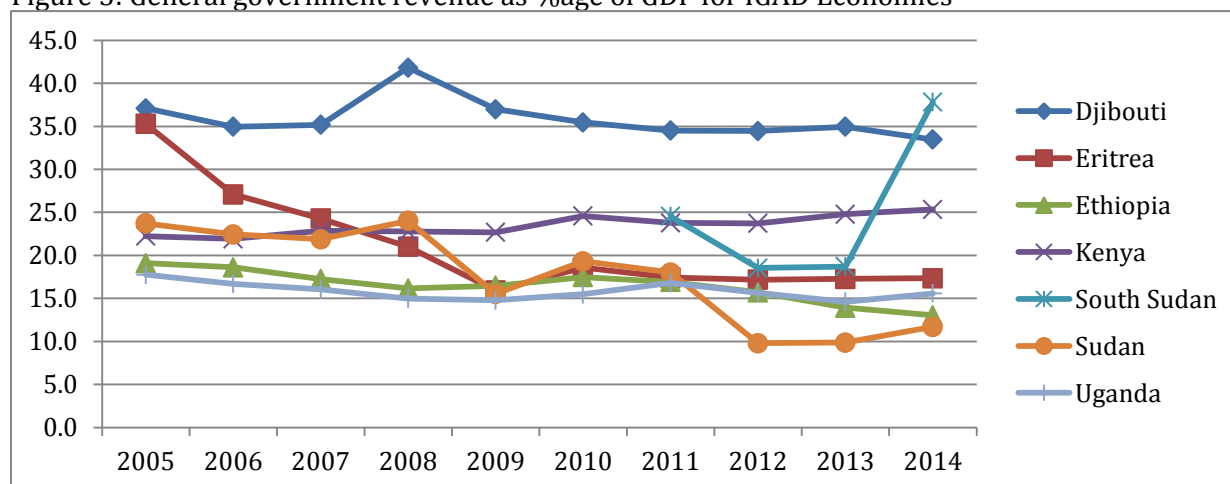**Source**: World Development Indicators, the World Bank (2014)

Annual average broad money (M2) growth (which seems to have positive and significant relationship with inflation) eased in 2012 for all countries with the exception of Sudan. In the Sudan it reached around 40 percent in 2012. Hence the high inflation observed in

Sudan seems to move together with the annual M2 growth in addition to the depreciation of the Sudanese dollar against the USD.

1.3. Government Fiscal Balance

Countries in the IGAD region, like most in Sub-Saharan Africa, are weak in mobilizing domestic resources to finance their development mainly due to narrow tax bases again due to the existence of large informal sector. Gross government revenue (which consists of taxes, social contributions, grants, and other revenue) expressed as percentage of GDP in most IGAD economies remains stagnant and declined in some countries in 2005-13. And the IMF projection indicates that this trend will continue in 2014. In Eritrea, government revenue as percentage of GDP declined by around 18 percentage points; likewise in the Sudan it declined by 12 percentage points. Relatively Djibouti followed by Kenya had the highest government revenue as percentage of GDP among IGAD member states; in 2013 it was 35 and 24.8 percent in Djibouti and Kenya respectively. In South Sudan the swing in GDP is observed as was the case in government revenue.

Figure 3: General government revenue as %age of GDP for IGAD Economies

Source: IMF World Economic outlook (2014)

Tax revenue alone constitutes around a third of GDP in most OECD countries but in IGAD countries it only accounts for less than a fifth of GDP. Kenya ranked first among IGAD countries with highest tax revenue as percentage of GDP; in 2012 Kenya managed to collect around 19.7 percent of GDP from taxes; while in Uganda it was 13 percent. Ethiopia's tax revenue constituted less than a tenth of its GDP. Such low level of tax revenue and weak

domestic resource mobilization pose greater challenge on the fiscal balances of these economies.

Table 4: General government total expenditure (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Djibouti	36.8	37.4	37.8	40.6	41.6	36.0	35.2	37.2	38.0	35.3
Eritrea	57.5	41.2	39.9	42.1	30.6	34.6	33.6	30.7	29.8	29.0
Ethiopia	23.3	22.5	20.9	19.1	17.4	18.8	18.5	16.9	17.3	16.1
Kenya	24.2	24.6	25.9	26.9	28.0	30.0	28.8	29.9	30.9	30.8
South Sudan							20.2	34.9	27.3	41.6
Sudan	26.2	23.8	25.4	23.5	20.6	19.0	17.8	13.6	12.0	12.9
Uganda	18.0	17.5	17.1	17.7	17.1	22.2	19.9	19.1	18.3	18.4

Source: IMF, World Economic Outlook (2014)
Note: The figures highlighted in the above table shows that they are IMF estimates.

Due to the low level of tax revenues and weak domestic resource mobilization, governments in IGAD countries finance their expenditure from other external sources (such as grants and aid). Hence government spending in most Sub-Saharan African countries is cyclical with respect to output growth. And in Sub- Saharan Africa, government spending and government revenue are highly correlated; and current expenditure is dependent on current fiscal revenue, rather than vice versa (Fielding, 1999).

As can be seen from table (4) above, IGAD countries spend more as percentage of their GDP though it is declining. Higher government spending for ambitious investment programs coupled with low government revenue has contributed to the deterioration of fiscal balances in the region.

1.4. External Balance

Table 5: External balance on goods and services (% of GDP) for IGAD (2005-2013)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Djibouti	-10.3	-17.4	-20.1						
Eritrea	-48.8	-31.5	-23.0	-21.7	-18.9	-18.6	-8.8		
Ethiopia	-20.6	-23.0	-19.5	-19.8	-18.5	-19.9	-15.1	-18.1	
Kenya	-7.5	-10.7	-10.9	-14.1	-13.3	-12.2	-16.6	-17.4	
South Sudan				34.4	25.7	33.3	34.8	-32.1	
Sudan	-9.2	-7.7	-0.8	4.5	-4.1	2.5	2.0	-10.8	
Uganda	-10.6	-13.1	-13.3	-7.7	-10.1	-12.9	-18.5	-15.6	-10.4
Sub-S. Africa	-0.1	1.1	-2.1	-1.2	-4.5	-1.2	-0.6	-1.6	0.5

Source: World Development Indicators (2014)

Even though, the volume as well as value of exports of goods and services for each IGAD country has improved a lot in the past decade or so, external balances on goods and services for all IGAD countries like most of Sub-Saharan African countries remains in deficit. As an Exception, South Sudan had the largest trade surplus in 2008-2012 with annual average of 21.2 percent of GDP; whereas the Sudan had the lowest trade deficit of 3 percent of GDP in 2005-2012. On the other hand Eritrea had the largest deficit among the IGAD member states; its annual average trade balance in 2005-2011 was around 24.5 percent of GDP. The other IGAD countries had average deficits of 10 to 20 percent of their GDP between 2000 and 2012.

Table 6: Current Account Balance for IGAD member states (2005-2014)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Djibouti	-3.2	-11.5	-21.4	-24.3	-9.3	-5.4	-14.1	-12.3	-13.2	-16.3
Eritrea	0.3	-3.6	-6.1	-5.5	-7.6	-5.6	0.6	2.3	0.3	0.2
Ethiopia	-6.3	-9.2	-4.5	-5.7	-5.1	-4.1	-0.7	-6.5	-6.1	-5.4
Kenya	-1.5	-2.3	-4.0	-6.5	-5.5	-7.3	-11.2	-10.4	-8.3	-9.6
South Sudan							18.4	-27.7	2.2	-2.3
Sudan	-10.0	-8.8	-6.0	-1.6	-9.6	-2.1	-0.4	-10.4	-10.6	-8.2
Uganda	-2.5	-4.2	-5.5	-8.7	-7.3	-11.1	-12.5	-10.5	-11.7	-12.6

Source: IMF World Economic Outlook Database (2014)
Note: The figures highlighted in the above table shows that they are IMF estimates.

Similarly the current account balance for these countries was in deficit for much of the period (2005-2013). But Eritrea had experienced current account surplus in recent years, especially since 2011. Whether this is due to imposed import restrictions or export growth is not clear.

1.5. Development Finance

Sub Saharan African countries in general and IGAD in particular have been heavily reliant on foreign aid as source of financing development activities; there has been a huge inflow of aid to these economies for the past fifty plus years. Some countries like Ethiopia and Uganda received aid in the form of ODA in the range of 10 percent of their gross national income. In 2011, Ethiopia and Uganda received around 11.2 and 10.1 percent of their GNI, respectively. Eritrea too received aid as high as 36 percent of its GNI in the early 2000's. In terms of per capita, Djibouti, Somalia and the newly independent state of South Sudan are

the big recipients of ODA among IGAD countries. In 2011 these economies received more than US$ 100 in per capita terms while the Sub-Saharan average was US$53.4. But despite such influx of foreign aid, the standard of living of the countries in the region remained stagnant. The level of poverty measured by poverty head count ratio of US$ 1.25 per day reached as high as 38.9 percent in Uganda (2009), 30.7 in Ethiopia (2011) and above 50 percent in South Sudan.

The region not only depends heavily on foreign aid flows (in the form of ODA) but also fails to mobilize domestic savings which provide finances for domestic investment and induce sustained economic growth. Countries which are heavily dependent on foreign capital to finance domestic investment are exposed to global shocks which in turn impacts economic growth adversely. On the other hand, as Rodrik (2000) showed countries with impressive and sustained economic performance have high domestic saving ratios and have gone through savings transition.
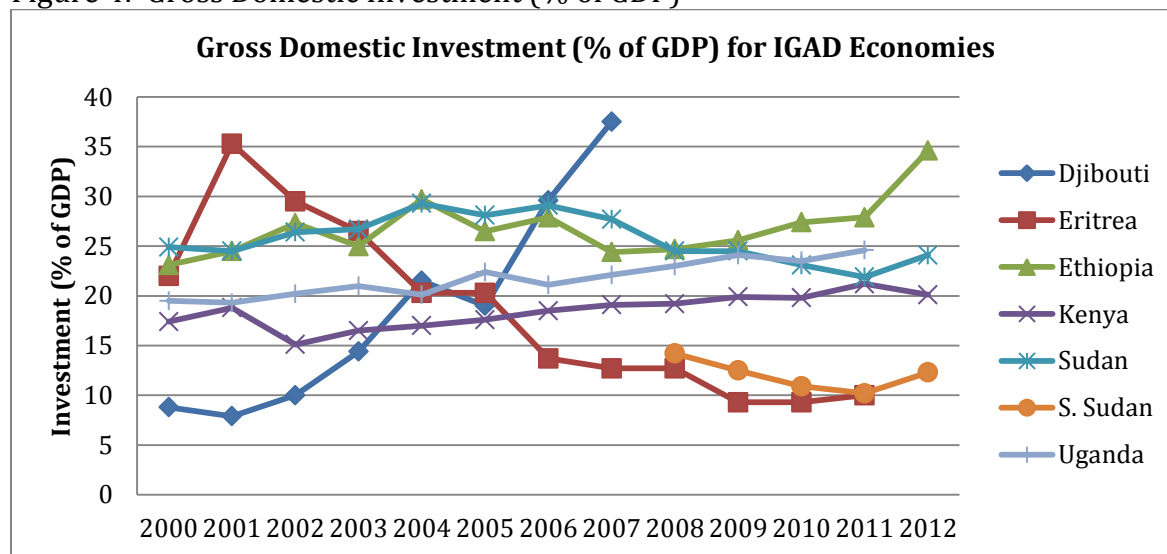
Domestic savings ratio in IGAD countries vary widely; countries such as Ethiopia and the Sudan have managed to increase domestic savings that reached around 16.4 and 12.5 percent of GDP, respectively, in 2012 while Kenya experienced declines in saving between 2000-2012. In 2012 domestic saving was below 3 percent of GDP in Kenya. Uganda which has had modest domestic saving rates in the IGAD region, its domestic saving was around 8.9 percent of GDP in 2012. In South Sudan, domestic saving was as high as 48 percent in 2011 but it plummeted to -20.9 percent in 2012. Interestingly, in all the economies, national saving exhibited large swings from year to year reflecting the fact that saving is exposed to commodity and fuel price swings in the global market.

Between 2000-2012 average domestic saving was 23.2 percent of GDP in Sudan, 9.6 percent in Ethiopia, 7.7 percent in Kenya and 9.3 percent in Uganda. Eritrea's domestic saving, on the other hand, was around -18.1 percent of its GDP in 2000-2011.

The low level of domestic savings ratio in IGAD is reflected in low level of domestic investment. As can be seen from figure (4), though still remains very low compared to other developing East Asian countries, a recent regional trend in investment is positive, especially in countries such as Ethiopia and Kenya, reflecting the improving investment

climate. Between 2000 and 2012, gross domestic investment in Ethiopia jumped by 11 percentage points. In Eritrea, on the other hand, a steady decline in domestic investment was registered since 2001; for instance it was around 35 percent of GDP in 2001. Similarly domestic investment in Sudan has been declining since 2006.

Figure 4: Gross Domestic Investment (% of GDP)

Source: World Development Indicators (2013)

Consequently owing to such mismatch, resource gaps (domestic investment less domestic saving) in these economies is huge. Between2000-2010, Eritrea had the largest resource gap owing to negative domestic savings; domestic resource gap was as high as 48 percent of GDP in 2000 which declined to 18.6 percent in 2010 in Eritrea. In Ethiopia though domestic savings has improved, resource gap remains huge because of increases in domestic investment. In 2012, resource gap was 18.2 percent in Ethiopia. Like that of Ethiopia, the gap between domestic investment and savings in Kenya and Uganda had also widened in the last decade or so. Contrary to this, South Sudan had huge domestic saving from oil exports with comparable domestic investment, which resulted in no resource gap.

Given the huge resource gap in the region, these economies should attempt to attract foreign private finances especially foreign direct investment (FDI) and private transfers (like remittances) to meet their investment requirements. Such foreign capital flows spur private sector productivity and growth by relaxing one of the crucial constraints IGAD economies face.

Foreign direct investment is pivotal for developing countries' development particularly for those which do not have access to international capital markets. Among IGAD countries, Sudan received the largest net inflow of FDI of around US$ 2.5 billion followed by Uganda in 2012; even if Sudan attracted much FDI compared to other IGAD countries, its net inflows contracted severely in recent years; it contracted in 2011 relative to 2010 due to the breakaway of South Sudan. Ethiopia's and Kenya's FDI inflows in 2012 was US$ 278.6 million and 258.6 million, respectively while that of Eritrea's net FDI inflows was only US$73.7 million.

The share of net FDI inflows to IGAD region relative to the rest of Africa is worth noting. In 2012, **9.1** percent of the total net FDI inflows to Africa went to the IGAD region; while the total net FDI inflows to the region is proportional to its GDP share of 8.1 percent, its inflows across countries varied. In some countries such as Ethiopia and Kenya, FDI inflow was below one percent of GDP in 2012 while in Uganda and Sudan it was 8.6 and 4.2 percent, respectively, probably due to the recent discovery of fuel oil.

Table 7: Foreign direct investment, net inflows (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012
Djibouti	3.13	14.08	23.04					
Eritrea	0.13	1.27	0.55	2.83	4.90	4.30	1.50	2.38
Ethiopia	2.18	3.63	1.17	0.42	0.79	1.10	2.09	0.67
Kenya	0.11	0.23	2.68	0.31	0.38	0.55	1.00	0.64
Sudan	12.49	11.79	9.33	12.40	10.53	9.43	4.09	4.23
Sub-S. Africa	3.27	2.45	3.67	4.42	4.19	3.11	3.22	3.00
Uganda	4.21	6.46	6.65	5.05	5.33	3.16	5.32	8.66

Source: World Development Indicators (2014)

The second source of external financing after foreign direct investment that is relied on to finance development in LDCs is private remittances (McKenzie and Sasin, 2007). In some countries the contribution of such finance in supporting economic development exceeds FDI inflows. For example, in both Kenya and Ethiopia, private remittance flow was much higher than net FDI inflows; in these two countries remittance in 2012 was 3 and 1.5 percent of their GDP while net FDI inflows was 0.64 and 0.67 percent, respectively.

Table 8: Personal Remittances received (% of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012
Djibouti	3.65	3.70	3.38					
Ethiopia	1.42	1.15	1.88	1.51	0.93	1.31	1.71	1.50
Kenya	2.27	2.53	2.37	2.19	2.06	2.13	2.78	2.98
Sudan	2.65	2.28	2.20	2.94	4.04	1.70	0.69	0.68
Uganda	3.57	4.12	3.79	5.01	4.94	4.48	4.85	3.69
Sub-S. Africa	3.35	3.44	3.33	3.03	3.11	2.68	2.44	2.37

Source: World Development Indicators (2014)

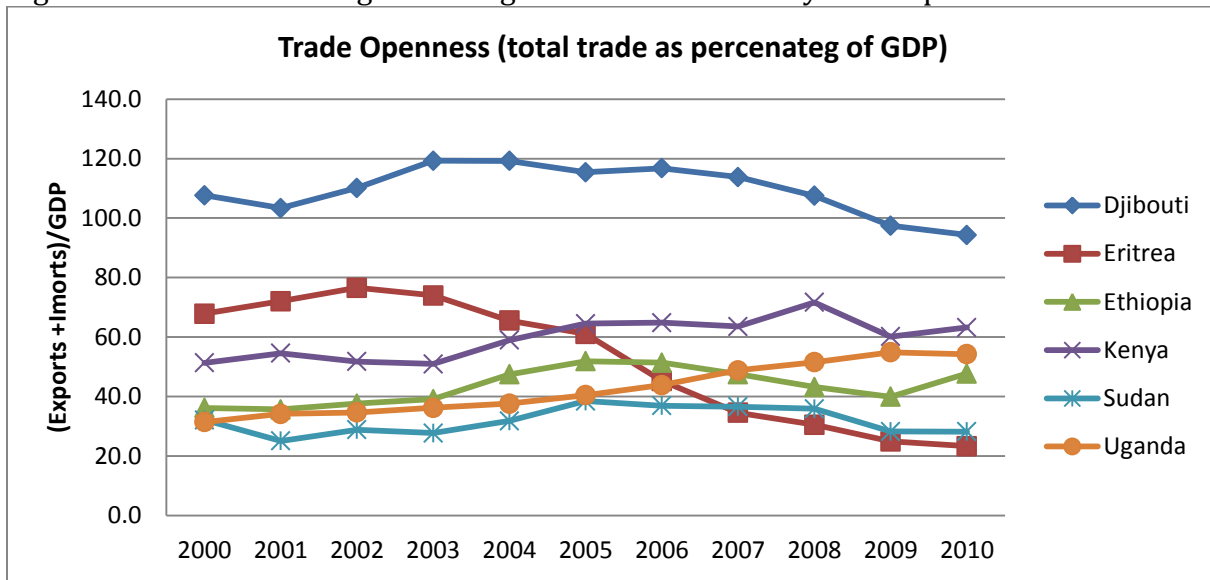## II. Assessing IGAD's Actual and Potential Trade

As a special focus of this Annual Report, the aim of Part II, is to examine two interrelated issues: the extent of trade in IGAD member countries with the rest of the world and among themselves, and to assess the potential to enlarge that trade. Accordingly, Sub-section 2.1 examines the flow of existing global and intra-regional trade in IGAD member countries. This is followed by a detailed analysis of indicators that aim to show the extent (or lack thereof) potential in IGAD countries to further enhance their trade in Sub-section 2.2. And finally, the last sub-section briefly discusses trade facilitation issues as measured by the extant of tariff and non-tariff barriers.

2.1. IGAD's Actual Global and Intra-Regional Trade
2.1.1. IGAD's Integration with the Global Market

Trade openness which is the ratio of total trade (exports plus imports) to GDP measures countries' integration to the global market. As shown in figure (5) below, most IGAD economies with the exception of Djibouti are less integrated to the global market. In 2012, Djibouti's trade volume as percentage of GDP was recorded to be the highest in the region with 94 percent followed by Kenya and Uganda with 63 and 54 percent, respectively. Eritrea which had relatively open economy following its independence in early 1990s, has become less and less open. Its trade volume as a percentage of GDP in 1993-97 was in par with that of Djibouti. But since 1998 the country's trade volume relative to its GDP has been declining, and reached 23.3 percent of GDP in 2010.

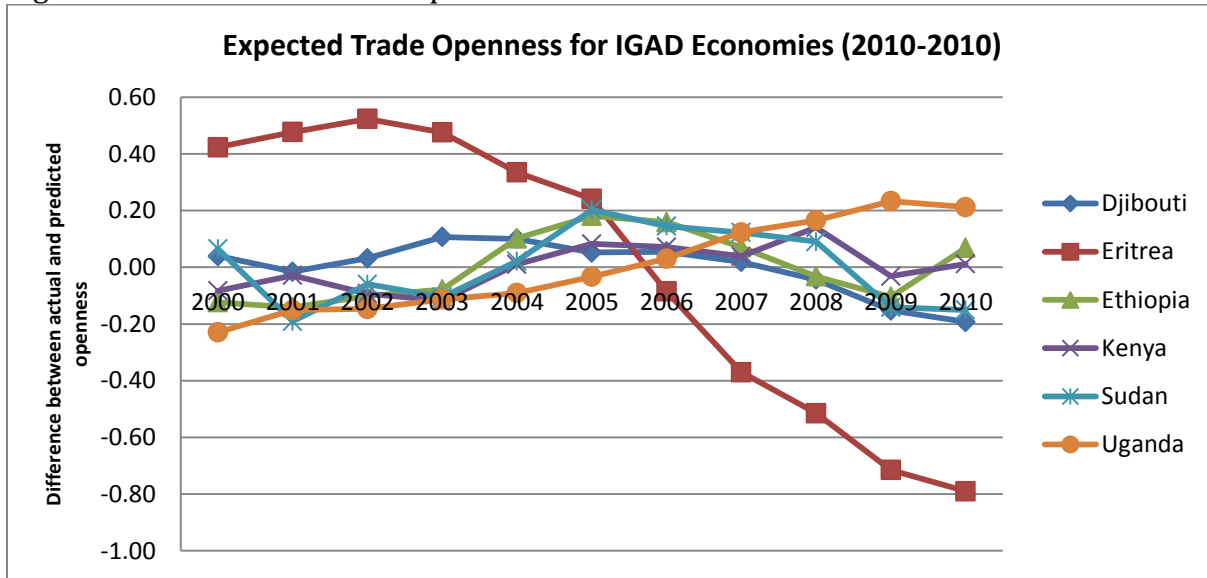Figure 5: IGAD countries' global integration as measured by trade openness

Source: Penn World Table Version 7.1

Trade openness might be systematically correlated with a country's specific characteristics (like GDP per capita income, population) which pose challenges for cross country comparisons. Hence to correct for this problem, we estimated a simple regression[i] (openness on GDP per capita income, population and remoteness) for all countries in order to measure how much countries are open relative to how much is expected given the countries' fundamentals and make cross country comparison following Leamer (1988).

Based on this regression, we computed countries' expected trade openness (i.e. the difference between actual trade openness and the predicted value of openness). The result for IGAD countries are presented in the following graph[ii] and the regression results are in Appendix 1).

Figure 6: IGAD countries trade potential

Source: Based on author's computation

The regression based trade openness estimates reflect that IGAD countries trade less given the countries fundamentals. But Uganda trades more as the actual trade is much more than the expected (or predicted trade) given the country's economic fundamentals (its landlockedness, GDP per capita and population). Consistent with the openness measure, the regression based estimate shows that Eritrea's trade volume has been deteriorating. Given its GDP per capita income of USD 369 and population of 5.7 million in 2010, Eritrea's trade volume should have been more.

2.1.2. Intra-IGAD Trade

When countries trade more among themselves in the pre-preferential trade regime, then there will be less trade diversion and more trade creation following the removal of tariff by partners. And there is more likelihood that terms of trade and the welfare of member states will be improved.

Countries in the IGAD region trade little among themselves with the exception of Uganda and Kenya (both members of the East African Community) which trade more with each other. A sizeable imports and exports of Uganda are to and from Kenya. Other countries in the region have less trade within IGAD. Ethiopia for example brings only a small fraction of its imports from IGAD countries. In 2012, it was less than 1 percent of Ethiopia's total

imports that came from IGAD. Though it imports less, Ethiopia exports much to other countries and has positive trade balance particularly against Djibouti, Somalia and Sudan. Around 19 percent of the total exports of Ethiopia go to these countries. Like Ethiopia, Kenya also exports more and imports less from other IGAD member states. The data shows that Kenya had a trade surplus against all IGAD countries between 2002 and 2010. Djibouti on the contrary exports less imports more from IGAD member states and, consequently it had regional trade deficit against all countries of IGAD during the period in question.

Table 9: The share of intra IGAD import and exports by country (2002-2012)

Year	Ethiopia		Kenya		Sudan		Uganda		Djibouti	
	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export
2002	...	...	0.4	27.6	...	...	29.0	15.1	...	...
2003	...	...	0.5	22.0	...	...	26.0	18.6	...	...
2004	1.4	9.5	0.4	15.6	...	...	24.8	15.8	...	...
2005	3.7	14.9	0.6	22.8	...	...	28.3	14.9	...	...
2006	6.3	14.7	0.2	20.1	...	...	15.5	18.7	...	...
2007	1.1	14.7	1.3	21.6	0.7	...	13.1	21.3	...	...
2008	2.3	13.4	0.9	20.8	2.1	...	11.4	24.6	...	...
2009	1.3	16.9	0.6	22.0	1.3	1.0	11.9	23.8	5.9	1.4
2010	1.7	19.6	1.0	21.8	1.0	2.0	11.1	24.7	...	...
2011	2.0	19.7	...	...	1.5	3.4	11.5	26.3	...	...
2012	0.9	18.8	...	...	1.4	0.3	9.7	28.5	...	...

Source: WITS COMTRADE

2.2. Potential Intra-IGAD trade

2.2.1. Commodities Most Traded Among IGAD Member Countries

The region's trade as whole is much dependent on primary commodities (including fuel) for global export and foreign exchange. But interestingly manufactured goods constitute much in intra-IGAD trade relative to that of global trade of the region. In 2012 for example, manufactured goods altogether made up around 36 percent of IGAD's regional trade; fuel alone constituted as much as around 30 percent in 2005 but its share in intra-regional trade declined and reached close to 10 percent in 2012. But the share of primary commodities excluding fuel in the regional trade had increased to 52 percent in 2012 from its share of 36.5 percent in 2005.

Table 10: Intra-IGAD trade by commodities[iii]

YEAR	2005	2006	2007	2008	2009	2010	2011	2012
Primary comm. excl. fuel	**36.5**	**47.6**	**49.1**	**47.6**	**49**	**49.7**	**51**	**52.4**
Food	25.2	33.1	33.7	38.6	43.8	46.1	46.8	48.3
Beverage	4.9	6.8	9.7	9.5	7.4	5.9	4.5	5.4
Agricultural raw materials	9.6	12.7	13.3	7	3.4	2	2.8	2.5
Fuel	**30**	**15.1**	**10.4**	**12**	**14**	**16.8**	**17.4**	**9.9**
Manufactured goods	**33.5**	**36.9**	**39.8**	**40.2**	**37**	**33.4**	**31.6**	**36.6**

Source: UNCTAD*stat (2014)*

Majority of the countries in the region are major producers and exporters of coffee yet coffee constitutes much in the sub region's trade. Interestingly the data shows that countries in the IGAD region do import and export the same commodity with each other. Whether this is due to product differentiation, border trade or the seasonality of agricultural products, is difficult to ascertain.

Table 11: The top ten products that were traded internally in IGAD in 2009

HS Product Code	Product Name	Value (in thousands USD)
7	Edible vegetables and certain roots and tubers	223,401
9	Coffee, tea, mate and spices	178,912
27	Mineral fuels, oils, distillation products	164,377
25	Salt, sculpture, earth, stone, plaster, lime & cement	131,565
24	Tobacco and manufactured tobacco substitutes	82,026.9
22	Beverages, spirits and vinegar	61,018.7
14	Vegetable plaiting materials, vegetable products	49,131.3
87	Vehicles other than railway, tramway	48,935.6
39	Plastics and articles thereof	45,110.1
84	Nuclear reactors, boilers, machinery	36,569.4

Source: World Integrated Trade Solution (2014)

2.2.2. Export Diversification Index

The sustainability of any regional integration scheme and the formation of free trade area depend heavily not only on the extent to which every country currently trades with each other but also on how similar their exports and imports, and their comparative advantages are. Hence we have computed different indices which could potentially show the structural attributes of trade among countries with the aim of assessing the potential for intra-regional trade in IGAD from a preferential trade agreement.

Economies which depend heavily on narrow range of products for their export are much vulnerable to global commodity price fluctuations and other exogenous shocks. Hence more diversified economies in terms of export structure can reduce that vulnerability emanating, for instance, from global demand shocks and price swings. Consequently as Lederman and Maloney (2003) found out high export concentration impacts growth negatively. To gauge the extent of such vulnerability, Hirschman (1964) suggested an index that measures export concentration index. This index attempts to capture how diversified the export content is such that the country doesn't rely on few export items but a wide range of goods. This is calculated for IGAD economies using a disaggregated export data. The index takes a value between 0 and 1; an index value closer to 1 represents extreme concentration (low export diversification) and value close to 0 indicates high diversification.[iv]

The estimated index shows that exports of these economies are less diversified. Relatively Kenya and Uganda are more diversified relative to the rest of IGAD member states; while Sudan has the highest concentration of exports (since it predominantly exports oil) as shown in Table (12).

Table 12: Hirschman Export Concentration Index for IGAD Countries (Calculated at 4 digits HS Classification

Year	Djibouti	Ethiopia	Kenya	Sudan	Uganda
2002	----	----	0.34	----	0.35
2003	----	----	0.29	----	0.32
2004	----	0.43	0.27	----	0.32
2005	----	0.44	0.27	----	0.35
2006	----	0.46	0.23	----	0.30
2007	----	0.38	0.21	----	0.29
2008	----	0.41	0.24	0.92	0.33
2009	0.43	0.37	0.24	0.78	0.30
2010	----	0.38	0.25	0.85	0.29
2011	----	0.38	----	0.81	0.25
2012	----	0.38	----	0.65	0.21

Source: Own computation based on WITS (2014)

Between 2008 and 2012, six commodities (namely coffee, cut flowers, oil seeds, live animals, raw hides and skins and precious or semi-precious stones) constituted more than 87 percent of Ethiopia's export reflecting the fact that the export content remained the

same (i.e. there was no significant export dynamics during the years. Similarly even though it is relatively more diversified compared to other IGAD economies, even Kenya's economy is still narrow compared to other similar size economies.

Consistent with the Hirschman export concentration index, simple sectoral shares in total exports of Sudan also shows that in 2012 around 64 percent of its exports was dominated by natural pearls and precious metals followed by live animals and animal products which constituted around 10 percent. According to the computed index, Sudan was the least diversified, followed by Ethiopia, then Uganda among the major IGAD member countries with relatively better data set. And Kenya is the most diversified in the region.

2.2.3. Trade Intensity Index

Another important index that is used to determine whether the value of trade between two countries is greater or smaller than would be expected on the basis of the country's importance in world trade is trade intensity index. It is defined as the share of one country's exports going to a given partner country relative to the share of the country's exports to the rest of the world[v]. An index of more (less) than unity indicates a bilateral trade flow that is larger (smaller) than expected, given the partner country's importance in world trade. It has to be noted that a more than proportionate share towards a given country /region relative to what the country exports to the world market is an indicator of movement towards or bias in favor of the country /region which if they are in a similar trading lock could be attributed to the effects of intra-regional trade. It is worth noting that such bias could also be due to other trade enhancing factors (border trade due to proximity, cultural affiliation, and possibly taste consideration though not formal trade agreements are in place).

Table 13: Trade Intensity among IGAD Member countries in 2009

		IMPORTER				
		Djibouti	Ethiopia	Kenya	Somalia	Sudan
EXPORTER	Djibouti	----	24.8	0.9	71.0	0.2
	Ethiopia	208.5	---	3.5	1223.6	82.4
	Kenya	13.2	36.5	----	468.6	62.9
	Sudan	0.0075	21.8	0.0016	----	----
	Uganda	0.0040	3.2	177.3	1.038	171.5

Source: Author's own computation using WITS

As can be seen from table (13) above, trade intensity among IGAD states is somewhat varied. Country pairs such as Djibouti and Ethiopia, Uganda and Kenya, Sudan and Ethiopia, Sudan and Kenya have larger bilateral trade flow than expected given their importance in the global trade as the trade intensity index for these pairs is larger than unity. The contributing factors seem to be both due to more functioning regional agreements (Kenya and Uganda, for instance) and proximity and border trade (Ethiopia and Djibouti and Ethiopia and Sudan). On the other hand, countries such as Sudan and Djibouti, Uganda and Djibouti, Kenya and Djibouti have less bilateral trade than expected, suggesting no noticeable favorable trade bias or intensity among these countries for various possible reasons. That is the impact of intra-regional trade is negligible.

2.2.4. Export Similarity Index

Finger-Kreinin (1979) index of export similarity provides us with a single measure of similarity of the export patterns of countries. The index ranges from 0-1, and where the index is equal to 1 this means that the export (import) structures of the pair of economies being considered is identical, and where it is equal to zero the export (import) structure has no overlap whatsoever[vi].

This is based on the assumption that countries tend to import what they don't produce and export what they produce in excess of their domestic demand. Therefore, the more dissimilar the export menu two countries have the more likely to trade more. And the converse holds when the two countries export similar goods (especially at low level of economic development when the appreciation for product differentiation in the countries considered is low).

In our case,, the export similarity measured using Finger-Kreinin's formulation for Ethiopia and Kenya in 2008 was around 21.5; this suggests that it is only 21.5 percent of Ethiopia's exports to the world that is matched by Kenya's export to the world. In essence it could also be viewed as the similarity (or lack thereof) in the economic structure of the countries considered.

Table 14: Finger-Kreinin export similarity index for IGAD member countries (computed using 4 digit harmonized system commodity classification)

Year	Ethiopia vs Uganda	Ethiopia vs Kenya	Ethiopia vs Sudan	Ethiopia vs Djibouti	Kenya vs Uganda	Kenya vs Djibouti	Uganda vs Sudan	Uganda vs Djibouti
2008	0.35	0.22	---	---	0.30	---	---	---
2009	0.27	0.23	---	0.04	0.34	0.12	---	0.15
2010	0.28	0.22	---	---	0.37	---	---	---
2011	0.29	---	---	---	---	---	---	---
2012	0.22	---	0.17	---	---	---	0.04	---

Source: Author's own calculation using UN COMTRADE database

2.2.5. Van Beers and Linnemann (1988) Export-Import Similarity Index[vii]

Van Beers and Linnemann (1988) index measures how similar are exports of country i with imports of country j at a similar commodity level. In this study we used 4 digits HS commodity classification in computing the index. The index varies between zero (no correspondence between the export of country i and the import of country j) and unity (perfect similarity). The index can be interpreted as the expected trade intensity between the exporting and importing countries.

Table 15: Export Import Similarity (Van Beers and Linnemann) index among IGAD countries

	Kenya's export similarity with other IGAD states import			
Year	Djibouti	Ethiopia	Sudan	Uganda
2002				0.38
2003				0.37
2004		0.37		0.22
2005		0.61		0.40
2006		0.51		0.33
2007		0.37	0.17	0.33
2008		0.33	0.15	0.28
2009	0.39	0.35	0.27	0.33

Year	Djibouti	Kenya	Sudan	Uganda
2010		0.35	0.27	0.31

Ethiopia's export similarity with other IGAD states import				
Year	Djibouti	Kenya	Sudan	Uganda
2004		0.43		0.49
2005		0.56		0.48
2006		0.43		0.50
2007		0.25	0.12	0.23
2008		0.22	0.14	0.23
2009	0.26	0.22	0.20	0.21
2010		0.18	0.19	0.15
2011			0.20	0.20
2012				0.16

Source: Own computation based on WITS

Table (15) shows Kenya's and Ethiopia's export similarity with other IGAD countries' imports. It shows that Kenya's exports to some extent corresponds to Ethiopian imports and Ethiopia's export with that of Kenyan imports. In 2010 around 18 percent of Kenya's import matched with Ethiopia's exports while 35 percent of Ethiopia's import matched Kenya's exports. It also reveals that Ugandan imports and Kenyan exports show strong similarity. But compared to other countries' imports in IGAD, there exists less similarity between Sudan's imports and exports from Ethiopia and Kenya; yet, though cannot be explained before further study, there seems to be some room to intensify bilateral trade between these countries. In 2010 around 20 percent of Ethiopia's exports matched with Sudan's import. In sum, the index suggests that there is significant potential the countries to benefit from specialization since the correspondence between demand and supply seem to be strong.

2.2.6. Trade Complementarity Index

Trade complementarity index is another useful tool to assess the prospects of intra-regional trade and regional integration. It shows how the export and import structure of country pairs match[viii]. The value of this index lies between zero (no compatibility whatsoever between the imports of country i and exports of country j) and hundred (perfect compatibility)

Table 16: Trade compatibility index among IGAD countries for 2009 (computed using 4 digit HS (harmonized system) commodity classification)

		IMPORTER				
		Djibouti	Ethiopia	Kenya	Sudan	Uganda
EXPORTER	Djibouti	----	28.9	32.7	32.1	27.8
	Ethiopia	20.3	----	25.0	22.7	18.5
	Kenya	33.5	27.4	----	25.7	31.8
	Sudan	68.3	27.7	25.4	----	25.6
	Uganda	24.0	16.1	12.7	15.5	----

Source: Own computation based on WITS (2014)

2.2.7. Revealed Comparative Advantage (RCA)

Revealed comparative advantage has been used widely to assess given countries' export potential and identify that country's comparative advantage at commodity level[ix]. The index can take a value between zero and infinity. A country is said to have a revealed comparative advantage if the value exceeds unity and a value less than one implies that the country has a revealed comparative disadvantage in the product category. The drawback of the index is that it can be affected by trade barriers that distort the trade pattern. Balassa's (1965) RCA measure has another drawback in that it is asymmetric in the sense that it is unbounded for those commodities with comparative advantage but bounded for those with comparative disadvantage; hence RCA can take any value greater than one but its minimum value is zero. Hence to correct for this drawback, the symmetric RCA which takes a value between -1 and 1 is applied in this study[x]. (See Appendix II)

All IGAD countries with the exception of Djibouti have comparative advantages on agricultural products. Even though their comparative advantage lies on agricultural commodities, it is somewhat diversified as can be seen from Appendix (2). Djibouti's comparative advantage lies on manufactured and semi-manufactured commodities[xi]. The three most important commodities with the highest comparative advantage for Djibouti are agricultural, horticultural or forestry machineries for soil preparation or cultivation, lifeboats, vessels and motor vehicles for the transport of goods.

Though coffee constitutes the major export item and source of foreign exchange for the Ethiopian economy, it is oil seeds and oleaginous fruits on which Ethiopia has the highest comparative advantage followed by sheep or lamb skin leather, without wool, and cotton, carded, combed. Jute, other bastfibre, raw or processed, tea and vegetable products constitute the commodities on which Kenya has relatively the highest comparative advantage. Whereas Sudan's comparative advantage lies on live sheep and goats, Lac, natural gums, resins, gum-resins and balsams, and Oil seeds and oleaginous fruits. Carded and combed cotton, cobalt ores and concentrates and vanilla beans are the three commodities on which Uganda has comparative advantage.

Comparative analysis of countries' RCA shows that economies in the IGAD region depend on the same commodities for export earnings. Between 2002 and 2012, the commodities for which IGAD member countries had comparative advantages remained almost unchanged supporting the claim that countries in the sub –region rely on the same primary agricultural commodities for their export earnings. For example, in 2002-04, Kenya's comparative advantage lied on tea, leguminous vegetables, cut flower and goat or kid skin leather. These commodities also constituted among the top six commodities in terms of revealed comparative advantage in 2008-10.

2.2.8. Regional Orientation Index

Regional orientation index shows whether a country's exports of a particular product are oriented towards a particular region[xii]. If the index has a value greater than 1, this implies that the country has a regional bias in exports of the product. Conversely, if the index is less than1, then the country has no regional bias.

Djibouti has regional export bias in commodities that fall in manufactured items category which include vehicles other than railways and trams, nuclear reactors, boilers, machinery and electrical, electronic equipment. Besides these manufactured goods Djibouti has regional export bias in dairy products. Kenya which has a relatively more diversified economy in the region has regional bias in manufactured goods. But the other countries in the region have regional export bias for which they have revealed comparative advantage.

2.3. Trade Facilitation& Transaction Costs in IGAD

2.3.1. Tariff barriers

Tariff barriers in IGAD countries are one of the most restrictive in the world. For example applied effective rate on manufacturing goods[xiii] was as high as 20.7 percent in Djibouti and 17.8 percent in Ethiopia in 2012. Relatively Uganda and Kenya have lower rate of 11.5 and 11.4 percent, respectively in 2012. Whereas applied effective rates on chemical products were relatively lower except in Djibouti which was 22 percent; in Kenya and Uganda it was around 6 percent in 2012. Both Most Favored Nations (MFN) and Effective Applied tariffs on manufactured goods in the economies are given below.

Table 17: Applied Effective and Most Favored Nations rates on manufacture goods among IGAD states

	Djibouti		Eritrea		Ethiopia		Kenya		Sudan		Uganda	
	Applied	MFN	Applied	MFN	Applied	MFN	Applied	MFN	Applied	MFN	Applied	MFN
2006	31.32	32.18	9.61	8.95	18.64	17.74	11.98	11.99	16.63	18.96	11.71	12.5
2007	..	..	..	..	..	..	11.87	11.89	..	..	11.64	12.34
2008	..	..	..	..	17.94	17.27	11.72	11.6	13.73	18.9	11.65	11.92
2009	21.34	21.52	..	..	17.94	17.27	11.58	11.56	13.09	19.21	11.6	11.88
2010	..	..	..	..	17.96	17.25	11.65	11.67	12.91	18.1	11.6	11.89
2011	20.73	22.16	..	..	18	17.24	11.92	11.59	12.88	18.1	11.67	11.79
2012	20.73	22.16	..	..	17.88	17.19	11.45	11.88	_	_	11.53	11.79

Source: UNCTAD *stat*

2.3.2. Non-Tariff Barriers

Expected intra-regional trade intensity between members of a regional group depends not only on the regional trade agreement and reduction and abolition of tariff barriers but also on other trade related infrastructures, geographic and economic factors. Among these factors hard and soft infrastructures are crucial for regional trade. The trade logistics performance index[xiv] given in table (18) reflects the fact that most countries in the region have poor trade related infrastructures. Even though some countries in the region i.e. Uganda and Kenya fare well compared to the Sub-Saharan Africa average in terms of trade logistics as seen in table(18); the table shows that trade related infrastructure remains

one of the weakest among the developing countries, most importantly in the IGAD sub-region.

Table 18: Trade Logistic Index for IGAD member countries

Country	2007	2010	2012
Djibouti	1.94	2.39	1.8
Eritrea	2.19	1.7	2.11
Ethiopia	2.33	2.41	2.24
Kenya	2.52	2.59	2.43
Sudan	2.71	2.21	2.1
Somalia	2.16	1.34	…
Uganda	2.49	2.82	…
Sub-Saharan Africa	2.35	2.42	2.46

Source: World Development Indicators (2013)

Table 19: Transaction costs among IGAD Economies (in 2013)

Economy	Cost to export (US$ per container)	Cost to import (US$ per container)	Documents to import (number)	Documents to export (number)	Time to export (days)	Time to import (days)
Djibouti	886	911	5	5	20	18
Eritrea	1,460	1,600	12	10	50	59
Ethiopia	2,180	2,660	10	7	44	44
Kenya	2,255	2,350	9	8	26	26
S. Sudan	5,335	9,285	12	10	55	130
Sudan	2,050	2,900	7	7	32	46
Uganda	3,050	3,215	10	7	33	33

Source: World Bank Doing Business (2014)

All IGAD member countries (both landlocked and non-landlocked) with the exception of Djibouti have very high cost of importing and exporting a standard container. Particularly in South Sudan where there is almost non-existent infrastructure within the country; it costs more than USD 9,200 to import a 20 foot container and costs more than USD 5300 to export the same container. Relatively Djibouti has the lowest cost to import and export. Likewise the documentation requirements for international trade in these economies are cumbersome as shown in table (19) above.

The World Bank enterprise survey (2014) also shows that it takes long to clear imports and exports through customs in IGAD economies. In Ethiopia, for example, it takes around 16 and 25 days to clear exports and imports, respectively, through customs where the global

average is only 8 and 13 days and that of Kenya was 11 and 21 days to complete the same activity.

III. Summary and Concluding Remarks

The growth performance of the macro economy of most IGAD member countries has been better than the SSA average. The worst performers in the region in 2012 seem to be South Sudan and Sudan owing to the conflict between the two countries. But the relatively more large economies (Ethiopia, Kenya, Uganda, for instance) have exhibited modest to impressive economic growth. The other economic aspects of IGAD member states have also been relatively stable. The most important economic concern in the region is the financial gap and its reliance on external sources (aid, remittances and FDI) than domestic saving.

Actual trade both with the rest of the world but particularly intra-regional trade are very low. There are a host of factors that explain this fact; these factors range from restrictive trade policies (tariff and non-tariff barriers) to weak structural issues (low degree of diversification, high concentration and similarity in tradable goods, low trade intensity among member countries) that have affected both the actual and to some extent the potential to expand trade.

Some of the indicators computed, however, suggest that IGAD member countries have the potential for their economies to complement each other once the restrictions are removed and each makes advances in specializing in products of their revealed comparative advantage and the degree of diversification expands to provide opportunities for regional members.

Endnotes

[i] $\ln(openness)_{it} = \beta_0 + \beta_1 \ln(GDPPC)_{it} + \beta_2 \ln(pop)_{it} + \beta_3 \ln(remoteness)_{it} + \eta_i + \varepsilon_{it}.$

Remoteness index which is used as proxy to measure multilateral trade resistance is calculated following Head (2003) which is given as:

$$\text{Re} moteness_{it} = \sum_j \frac{Dis\tan ce_{ij}}{(GDP_j / GDP_w)}$$. Where distance is the bilateral distance between countries i and j

[ii] If the actual openness is greater than the predicted value, it suggests that the country trades more than it can be expected otherwise it trades less given the country's fundamentals

[iii] The commodity classification is Standard International Trade Classification (SITC).

[iv] $$H = \frac{\sqrt{\sum_{i=1}^{N} \left(\frac{x_i}{X_t} \right)^2} - \sqrt{\frac{1}{N}}}{1 - \sqrt{\frac{1}{N}}}$$

Where x_i is the exports in commodity class i, N is the number of products exported (at 4 digits HS commodity classification).

[v] It is calculated as:

$$T_{ij} = \frac{[x_{ij} / X_{it}]}{[x_{wj} / X_{wt}]}$$

Where x_{ij} and x_{wj} are the values of country i's exports and of world exports to country j and where X_{it} and X_{wt} are country i's total exports and total world exports, respectively.

[vi] $$S(ab, w) = \left\{ \sum_i \min[Xi(aw), Xi(bw)] \right\} * 100$$

Where $Xi(aw)$ is the share of commodity i in $a's$ exports to the world,w.

[vii] $$EIS_{ij} = \sum \min\left(\frac{E_{ik}}{\sum_k E_{ik}}, \frac{M_{jk}}{\sum_k M_{jk}} \right)$$ In which

E_{ik} is exports of country i in commodity class k, M_{jk} is imports of country j in commodity class k

Whereas K denotes commodity class 1,..., n. The measure vary between zero (no correspondence between exports of country I and imports of country j at all) and unity (perfect similarity.

[viii]The trade complementarity index between country i and country j as introduced by Michaely (1996) is given as:

$$TC_{ij} = 100 \left[1 - \sum_k (|m_{ki} - x_{kj}| / 2) \right]$$

Where m_{ik} is the share of commodity k in all imports of country i; and x_{kj} is the share of commodity k in all exports of country j and m_{ki} is the import share of commodity k in all imports of country i.

[ix]The RCA of country i for product j as originally proposed by Balassa (1965) is measured by the product j's share in country i's exports in relations to the product's share in the global market.

$$RCA_{ij} = \left[\frac{(X_{ij} / X_{it})}{(X_{wj} / X_{wt})} \right]$$

Where X_{ij} and X_{it} are country i's export of product j and country I's total exports respectively and where X_{wj} and X_{wt} are world exports of product j and total world exports respectively.

[x]$$SRCA_{ij} = \frac{RCA_{ij} - 1}{RCA_{ij} + 1}$$

[xi]We suspect that some manufactured commodities that pass through Djibouti port to Ethiopia might be reported by Djibouti as exports. This could partially explain why Djibouti's comparative advantage seems to lie on highly sophisticated manufactured goods such as warships, motor vehicles and others.

[xii]$$ROI_{ik} = \frac{x_{ijk} / x_{ij}}{x_{ik-j} / x_{i-j}}$$

The numerator is the share of the country's exports of the product to the region of interest in the country's total exports to the region. The denominator is the share of the country's exports of the product to other countries in the country's total exports to other countries.

[xiii] Manufactured goods include those commodities that fall on SITC classification 5, 6 (less 667 and 68), 7 & 8

[xiv] Logistics Performance Index overall score reflects perceptions of a country's logistics based on efficiency of customs clearance process, quality of trade- and transport-related infrastructure, ease of arranging competitively priced shipments, quality of logistics services, ability to track and trace consignments, and

frequency with which shipments reach the consignee within the scheduled time. The index ranges from 1 to 5, with a higher score representing better performance.

References

Alan Heston, Robert Summers and Bettina Aten (2012), Penn World Table Version 7.1, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

Balassa, Bela (1965)Trade Liberalization and Revealed Comparative Advantage, *Manchester School of Economic and Social Studies*, 33, pp. 99-123

Cheong, D. (2010) Methods for Ex Ante Economic Evaluation of Free Trade Agreements, *ADB Working Paper Series on Regional Economic Integration,* No: 52

Enterprise Surveys (http://www.enterprisesurveys.org), The World Bank

Feenstra, Robert C., Robert Inklaar and Marcel P. Timmer (2013), "The Next Generation of the Penn World Table" available for download at www.ggdc.net/pwt

Finger, J. M. and Kreinin, M. E. (1979) A Measure of Export Similarity and Its Possible Uses, *The Economic Journal*, Vol (89), No. 356, pp. 905-912.

Head, K. (2003) Gravity for beginners, *mimeo,* University of British Columbia

Hirschman, A., O. (1964) The paternity of an index. *American Economic Review*, pp. 54: 761

International Monetary Fund, IMF (2014) *World Economic Outlook: Recovery Strengthens, Remains Uneven,* Washington DC, USA

Laursen, K. (1998) Revealed Comparative Advantage and the Alternatives as Measures of International Specialization, *DRUID Working Paper*, No. 98-30

Leamer, E.E (1988), Measure of Openness, in Robert E. Balwin (eds) *Trade Policy Issues and Empirical Analysis,* University of Chicago Press: pp. 145-204

Lederman, D. and Maloney, W. (2003) Trade Structure and Growth, *World Bank Policy Research Working Paper,* No. 3025

McKenzie, D. J. and Sasin, M. J (2007) Migration, Remittances, Poverty, and Human Capital: Conceptual and Empirical Challenges, *World Bank Policy Research Working Paper,* No. 4272

Michaely, M. (1996) Trade Preferential Agreements in Latin America: An Ex-Ante Assessment, *Policy Research Working Paper Series1583,* Washington DC,: The World Bank

Rodrik, D (2000), Saving Transitions, *The World Bank Economic Review,* Vol. 14, No. 3, pp. 481- 507

Van Beers, C.P and Linneman, H. (1988) Commodity Composition of Trade in Manufacturing, and South-South Trade Potential, *Research Memorandum,* Free University, Faculty of Economics and Econometrics, Amsterdam.

World Trade Organization, WTO (2010), A Practical Guide to Trade Policy Analysis, Geneva, Switzerland.

Yeats, A. (1997) Does MERCOSUR's Trade Performance Raise Concerns about the Effects of Regional Trade Arrangements, *World Bank Policy Research Working Paper,* No. 1729

Appendix

Appendix (1): Regression results for Openness

Dependent Variable	(1) ln_Openness	(2) ln_Openness	(3) ln_Openness
Ln_GDPPC	0.120***	0.0663***	0.196***
	(0.0147)	(0.0189)	(0.0274)
Ln_population		0.328***	0.315***
		(0.0725)	(0.0718)
Ln_Remoteness			-0.270***
			0.0416)
Country Fixed Effects	Yes	yes	yes
Constants	3.719***	0.745	5.709***
	(0.106)	(0.666)	(1.009)
Observations	2035	2035	2035

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix (2) Revealed Comparative Advantages for IGAD Economies

		Commodity Description	Product Code[xiv]
Uganda	1	Cotton, carded, combed	5203
	2	Cobalt ores and concentrates	2605
	3	Vanilla beans	905
	4	Coffee, tea, mate and spices	901
	5	Tea	902
	6	Sulphur, except sublimated, precipitated, colloidal	2523
	7	Animal and vegetable fats or oils, hydrogenated	1516
	8	Cobalt mattes, articles, waste or scrap	8106
	9	Live plants, roots, cuttings, mushroom spawn	602
	10	Goat or kid skin leather, without hair	4106
Kenya	1	Jute, other bastfibre, raw or processed, not spun	5303
	2	Tea	902
	3	Vegetable products	1404
	4	Cut flowers, dried flowers for bouquets, etc,	603
	5	Leguminous vegetables, fresh or chilled	708
	6	Goat or kid skin leather, without hair	4106
	7	Bricks, blocks and ceramic goods of siliceous earths	6901
	8	Carbonates	2836
	9	Sheep or lamb skin leather, without wool on	4105
	10	Cloves (whole fruit, cloves and stems)	907
Ethiopia	1	Oil seeds and oleaginous fruits	1207
	2	Sheep or lamb skin leather, without wool on	4105
	3	Cotton, carded, combed	5203
	4	Goat or kid skin leather, without hair	4106
	5	Animals, live, except farm animals	106
	6	Coffee, tea, mate and spices	901
	7	Lac, natural gums, resins, gum-resins and balsams	1301
	8	Cut flowers, dried flowers for bouquets, etc,	603
	9	Vegetables nes, fresh or chilled	709
	10	Vegetables, leguminous dried, shelled	713
Sudan	1	Live sheep and goats	104
	2	Lac, natural gums, resins, gum-resins and balsams	1301
	3	Oil seeds and oleaginous fruits nes	1207
	4	Sheep or lamb skin leather, without wool on	4105
	5	Animals, live, except farm animals	106
	6	Locust beans, seaweed, sugar beet, cane, for food	1212
	7	Gold, unwrought, semi-manufactured, powder form	7108
	8	Petroleum oils, oil from bituminous minerals, crude	2709
	9	Cotton, not carded or combed	5201
	10	Lead waste or scrap	7802

Djibouti	1	Agri'l, horticultural or forestry machinery for soil preparation or cultivation	8432
	2	Warships, lifeboats, hospital ships, vessels	8906
	3	Motor vehicles for the transport of goods	8704
	4	Plastic articles for use in construction	3925
	5	Transmission shafts (including cam shafts and crank shafts) and cranks	8483
	6	Self-propelled bulldozers, angledozers, graders, levellers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers	8429
	7	Bombs, grenades, mines, missiles, ammunition, etc	9306
	8	Trailers and non-mechanically propelled vehicle	8716
	9	Cinematographic cameras and projectors	9007
	10	Machinery to sort, screen, wash, etc mineral products	8474

Source: Own computation based on WITS data