



EXPORT DIVERSIFICATION AND EMPLOYMENT





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Executive Summary

There is a general consensus that trade has high potential to foster inclusive growth and create employment. Thus, classical trade theorists recommended active trade participation for both developed and developing countries based on comparative advantage. They also recommended that countries should specialize in producing and exporting commodities for which they have comparative advantage, while importing those for which they lack comparative advantage. Hence, exports specialization was touted as being economically preferable to diversification. However, more recent theoretical and empirical studies have emphasized the importance of export diversification, rather than export specialization or concentration. Key reasons for this paradigm shift include the likelihood that export diversification favorably influences the pattern of growth and structural transformation that countries and regions experience, coupled with the fact that diversification increases a country's ability to meet objectives such as job creation and improvements in income distribution.

A strong link is deemed to exist between the poor state of export diversification and the dismal nature of employment creation in developing countries, especially in Africa. Indeed, there is a major concern that the pattern of African exports manifests instability that has been found to be independently growth-inhibiting. Concurrently, sub-Saharan Africa (SSA) currently has one of the highest levels of unemployment in the world, with its 2010-2014 average official unemployment rate of 8 per cent, in contrast with 3.9 percent and 4.4 percent, respectively, in South Asia and East Asia and Pacific (ILO, 2017). Meanwhile, SSA's 'vulnerable employment' in 2016 stood at 68.0 percent, compared with the global average of 42.9 percent. Thus, this paper seeks to answer three main questions: (1) Is there a relationship between export diversification and employment generally and particularly in Africa and least developed countries (LDCs)?; (2) What does the theoretical and empirical literature reveal about the relationship?; and (3) Assuming that export diversification is potentially an important positive determinant of employment creation in Africa and least developed countries, then what are the appropriate policies for increasing it?

The stylized facts on export diversification and employment in Africa reveal the following: (1) Africa lags behind other developing regions on global exports performance; (2) the share of global exports is lowest for Africa amongst the developing regions; (3) exports in SSA countries exhibit a high degree of dependence on few primary agricultural or mineral exports; (4) Africa has consistently performed worst on export diversification; (5) Africa has one of the highest levels of unemployment in the world, accompanied by a low level

Executive Summary (contd.)

of job creation; (6) the youth are the highest victim of unemployment in Africa; and (7) the dominance of the informal sector of African economies generates vulnerable employment.

While the theoretical literature seems equivocal on the effects of export diversification on employment, the empirical literature related to Africa and LDCs appears inconclusive and tend to differ across countries. Some of the factors that may be responsible for this inconclusiveness may include measures of variables employed, estimation techniques, control variables used, and the period of coverage. Given the nature and structure of African economies and those of LDCs, large informality and disproportionate effects across gender and age groups pose additional challenges in empirically assessing the relationship.

The cross-country econometric analysis of export diversification on different measures of employment conducted over 1991-2010 is revealing. First, all the four measures of employment used in the present study (the employment rate, the labor force participation rate, industrial employment, and vulnerable employment) are correlated, at the 0.01 significance level, with the export diversification index and in the anticipated directions. The results show that employment expands with export diversification, while vulnerable employment declines with export diversification. To corroborate the findings in the correlation estimates and obtain a relatively long-term impact, cross-country regression estimates based on the two-decade averages were undertaken. The results show generally that the employment rate of individuals 15+ years of age tends to increase with export diversification in developing countries. However, this favourable impact is lower for African countries as a group. Similar results are obtained for labor-force participation. It is also found that the industrial share of total employment rises with export diversification in both advanced and developing countries about equally. Furthermore, the vulnerable employment share of employment generally decreases with export diversification overall, except perhaps in advanced economies.

Results from the SYS-GMM panel estimation generally corroborate the above cross-country findings. However, these results seem somewhat weaker, perhaps because they are based on annual data, which may reflect short-run cyclical relationships. From the literature review and empirical findings, we identify for Africa and LDCs generally a number of challenges and opportunities associated with export diversification and employment. Among the opportunities are: innovative continental and regional initiatives, global market access initiatives, emergence of new and highly promising sectors, trade-related technical assistance initiatives, and increased economic cooperation with emerging developing

Executive Summary (contd.)

countries. Conversely, the challenges include: poor infrastructure, lack of finance especially for small and medium-sized exporters, governments' export policy inconsistencies and incompleteness, complicated export systems, corruption and corrupt practices, the high cost of doing business, limited market access, and weak export competitiveness.

Africa has several lessons to learn from other developing countries that have made significant progress on export diversification over the years and have reaped the benefits of its positive effect on employment. The lesson from South Korea is the need for government to undertake deliberate export diversification policy. Critical to the success of such policy is government's role in strengthening the capabilities of firms. The Brazilian experience underscores the importance of the use of financial instruments as tools for promoting export diversification, including: credit, export credit insurance, advance payment under foreign exchange contract, and strong institutional support and investment in R&D. From Thailand comes the lesson that government should focus on leveraging the dynamism of the private sector and need for strategic approach to export diversification. Above all, however, providing an environment conducive for efficient private sector participation in the economy is critical.

Arising from the overall findings of the paper are several recommendations for the respective stakeholders. Governments of African countries should: develop a capable, accountable, developmental and transformational state; focus on developing strategic national and regional infrastructure; prioritize financing for export-oriented firms; focus on developing and integrating African economies into the global value chain; strengthen the institutional and regulatory framework; support SMEs to access export markets; initiate industrial development policies that are capable of facilitating vertical and horizontal export diversification; and invest in human capital development that is complementary to other productive capital. Continental, regional and sub-regional institutions should take the lead in coordinating regional infrastructure development, assist LDCs to initiate continental export diversification policy, promote trade facilitation, and deploy innovative options for export financing. Private sector businesses need to take full advantage of export-promoting incentives of the government, and initiate public-private partnerships in export diversification projects and infrastructure financing. Finally, external development partners are enjoined to employ official development assistance (ODA) to help build export-promoting and diversifying capabilities, as well as use their political leverage to create a greater level-playing field globally for African countries and LDCs.

1. Introduction

There has been a long history in the economic development literature of extolling the virtues of export-promotion strategies. The importance of trade, particularly exports, for economic growth has been extensively discussed in the literature (e.g., Emery 1967, Keesing 1967, Michaely 1977, Feder 1982 and Edwards 1993). The rationale underlying the importance of export expansion includes the following. First, export development allows the home country to focus investment on those sectors where it enjoys a comparative advantage, consistent with neoclassical trade theory (Heckscher 1919, Ohlin 1933, Samuelson 1948). The resulting specialization is likely to augment overall productivity. Second, the larger international market allows economies of scale to be realized in the export sector. Third, global competitive pressures are likely to lead to a reduction in inefficiencies in export production and to result in the adoption of relatively efficient techniques in the traded sector. Finally, a larger export sector would avail more of the resources required to import in a timely manner both physical and human capital, including advanced technologies in production and management, and for training high quality labor (Fosu 2002b). The above rationale for the importance of exports is often emphasized for especially low-income economies with small internal markets such as those of African countries generally (see, e.g., Fosu 1990a, Helleiner 1992, and Lussier 1993).

The importance of trade for growth and development has historically been based on classical theory that countries should specialize in producing and exporting commodities in which they have comparative advantage (Heckscher 1919, Ohlin 1933, Samuelson 1948). In this regard, African countries would export primary products, while importing manufactures. However, more recent theoretical and empirical studies have emphasized the importance of export diversification (see Box 1 for the concept of diversification), rather than export specialization (Herzer and Nowak-Lehmann 2006). This paradigm shift may be traceable to several factors. First, it is now observed that export diversification favorably influences the pattern of growth and structural transformation that countries and regions experience. Second, it is found to increase a country's ability to meet such goals as job creation and improvements in income distribution (Hausmann and Klinger, 2006; Hwang, 2006). Third, export diversification tends to attenuate export revenue instability and volatilities in imports and capital, which tend to be growth-inhibiting (Fosu, 1991, 2001).

To mitigate particularly the challenges of relative instabilities associated with concentrating in commodity exports, the current view is that countries should consider diversifying

exports both in terms of partners and of commodities. While market diversification refers to entering new markets not previously covered with existing commodities, product diversification means adding new products or services to the range of existing ones in existing markets.

A strong link is deemed to exist between the poor state of export diversification and the dismal nature of employment creation in developing countries, especially in Africa (FAO 2004 and Osakwe 2015). Creating meaningful and stable employment usually requires relatively high and stable growth, which in turn is dependent on exports diversification that allows a country to spread its risks over a broader number of countries and commodities, and to hedge against real and potential terms of trade shocks emanating from commodity prices (Acemoglu and Zilibotti, 1997). Indeed, it is widely believed that the considerable progress in the structural transformation of a number of Asian countries has been the result of the shift towards export diversification, that is, from primary to labor-intensive manufactured exports, and further to more resource-intensive manufactures (World Bank 1993; Sarel 1996).

A major concern about the pattern of African exports involves its instability, which has been found to be independently growth-inhibiting (Gyimah-Brempong, 1991). It may also be transmitted into capital or import instability, either of which could be growth-inhibiting (Fosu, 1991, 2001), with adverse implications for employment creation. Incidentally, trade is highly concentrated in Africa with very limited diversification and exports dominated by primary commodities, consistent with neoclassical trade theory (Wood and Mayer 2001).

Concurrently, sub-Saharan Africa (SSA) now has one of the highest levels of unemployment in the world, with its 2010-2014 average official unemployment rate of 8 percent, only lower than that of the Middle East and North Africa of 11 percent. In contrast, South Asia and East Asia and Pacific recorded average rates of 3.9 percent and 4.4 percent, respectively, over the same period (ILO, 2017). Indeed, for many developing countries vulnerable employment, which accounts for the working poor and lack of employment benefits, is particularly germane. This form of unemployment was as much as 68.0 percent for SSA, compared with the global average of 42.9 percent, in 2016 (ILO, 2017).

The present paper seeks to answer several questions:

- Is there a relationship between export diversification and employment generally and particularly in Africa and least developed countries (LDCs)?
- What does the theoretical and empirical literature reveal about the relationship?

- Assuming that export diversification is potentially an important positive determinant of employment creation in Africa and least developed countries, then what are the appropriate policies for increasing it?

To answer the above questions, the present paper, first, takes stock of the theoretical literature on the relationship between exports diversification and employment in developing countries, with a focus on Africa and the LDCs. Second, it provides evidence on employment effects of exports diversification based on existing pertinent empirical studies. Third, it empirically estimates the effects of export diversification on various employment measures. Fourth, it provides a brief review of the factors affecting export diversification. Fifth, it lists a number of both opportunities and challenges associated with attaining export diversification. Lastly, the paper makes recommendations toward export diversification policies that could lead to employment expansion in Africa and the LDCs.

Box 1. Export Diversification and Measures

Export diversification reflects the degree to which a country's exports are spread across a large number of products and/or trading partners. This contrasts with export concentration where a greater focus of trade is on a small number of commodities and/or trading partners. Conceptually, these two definitions are similar, in that a larger level of export diversification should reflect a smaller value of export concentration, and conversely. The indicators used in this paper are based either on export shares or the deviation of the structure of trade from the global pattern. Hence they are both related measures.

A perfectly concentrated export portfolio exists when a country exports one product to only one trading partner. Conversely, a country has more diversified exports when its exports include a larger number of products and trading partners. In this box, the conceptual issues relating to export diversification and its measurement are presented. Explanations are also provided on the forms and dimensions they take as well as possible levels of analysis.

The simplest definition of export diversification is the changing structure resulting from widening the range of a country's exports (Dennis and Shepherd 2007). The diversification is achieved through increasingly changing the basket of commodities being exported, or improving the existing exports by adding value, or enhancing them through technology and innovation. In a practical sense, it can take different forms, dimensions and can be analyzed at varying levels (Ali et al., 1991). Export diversification can be vertical, horizontal or diagonal (Herzer and Nowak-Lehmann 2006, and Samen 2010).

While vertical diversification refers to the transformation in a country's export basket from primary products to manufactures through increased value addition, horizontal diversification entails geographical diversification or diversification at the extensive margin which seeks to change

Box 1 (contd.)

export structure by increasing the mix of primary commodities being exported by the country (Matthee and Naudé 2008). The forward and backward linkages advantage and technology transfer potentials associated with vertical diversification impress scholars and policymakers that this type of diversification is more beneficial to developing countries (Hirschman, 1958). Other types of diversification that have also gained prominence include product diversification, intermediate goods diversification, quality diversification, and goods-to-services diversification.

Two measures that are often used to measure export diversification are: The Export Concentration Ratio (ECR), or the Herfindahl-Hirschmann Index (HHI) (Hirshman 1964), and the Export Diversification Index (EDI). The ECR lies between 0 and 1, where closer to 0 indicates greater diversified exports while closer to 1 signifies less diversified exports. Thus a country with an ECR value of 1 is exporting a single commodity, while a country with a 0 value is exporting an infinite number of commodities. That is, higher values indicate that exports are concentrated in fewer sectors while lower values signify that exports are more highly diversified.

The EDI for a country may be defined as: $EDI_j = (\sum |h_{ij} - x_i|)/2$, where h_{ij} is the share of commodity i in the total exports of country j and x_i is the share of the commodity in world exports. EDI also decreases with export diversification, since the higher the index the greater is the deviation of the country's exports from the global export pattern.

Countries seek export diversification because of the several advantages it offers. First, it promotes long-run stabilization of export earnings (Ghosh and Ostry, 1994; Bleaney and Greenaway, 2001). The view is that a larger, more diversified basket of commodities exported would mitigate the potentially elastic and unstable demand associated with a single or fewer commodities. Second, export diversification serves as a strategy for structural economic transformation (Hausmann et al., 2007; Hausmann and Klinger, 2006). Third, it may provide a hedge against exogenous price shocks usually associated with primary commodity markets (Bertinelli et al., 2006; Levchenko and di Giovanni, 2006). Lastly, export diversification promotes more rapid, inclusive and sustained economic growth and development (Chenery, 1979 and Syrquin, 1989).

2. Export Performance/Diversification, and Employment in Africa – Stylized Facts

African countries should have a strong interest and focus on job creation. Generally, these are countries with large populations, especially of the youth, accompanied by high population growth rates. According to the World Bank's World Development Indicators database, in 2016 SSA recorded the highest regional population growth of 2.74 per cent, with African countries occupying the top spots in population growth: Mozambique (2.88 percent), Senegal (2.86 percent), and Mauritania (2.80 percent). Correspondingly, a major characteristic of the African population is the high percentage of young people in the total population. For instance, United Nations' 2015 Revision of the World Population Prospects estimated that the rapidly growing Africa's youth population would double to 830 million by 2050. Another important characteristic is the substantial number of people entering the labor force annually, estimated to range between 10 and 12 million (AfDB 2016). One challenge that comes with the large and growing population is the need to create millions of jobs for the entire population, especially the youth. Given the economic structure of African countries, a high percentage of the population is engaged in the agricultural sector, particularly food production. However, this sector is notorious for low productivity, necessitating the diversification of economic activities, first into exports generally, and then into more labor-intensive non-primary exports.

Understanding Africa's export performance is important, given the finding of its positive implication for growth in the region (e.g., Fosu, 1990b; Lussier, 1993). Hence, the next sub-section sheds light on Africa's export performance and diversification. Certain stylized facts about Africa's employment situation are also presented.

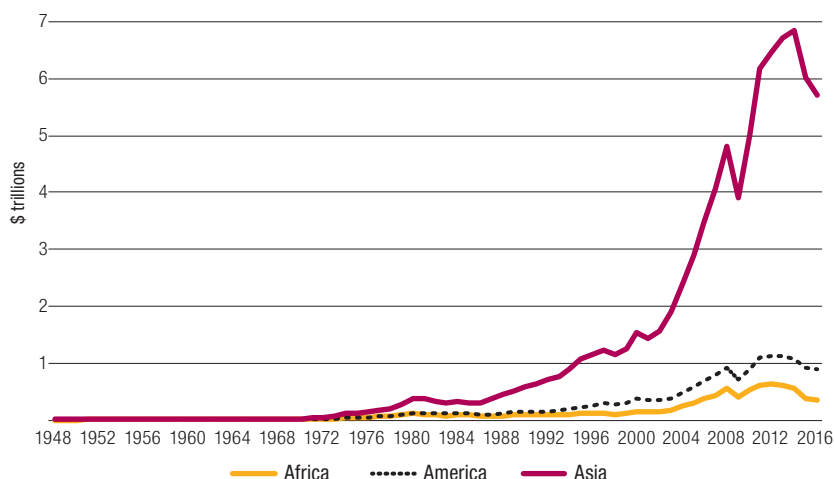
2.1 Africa's Export Performance and Diversification

Africa lags behind other developing regions on global exports performance. Africa's total export performance measured in value terms (current US dollars) remains relatively flat over a long period from 1948 (chart 1)¹. A gradual take-off was not recorded until 1987 when it crossed the US\$100 billion mark. Ever since, total exports have been trending upward, reaching a peak of US\$640 billion in 2012. However, a consistent downward trend set in during the following year, reaching a low of US\$346 billion at the end of

¹ Normally, one would use real-valued exports for over-time comparison; however, the intent here is the inter-regional comparison.

Chart 1

Value of total merchandise exports of Africa, compared with other developing regions of Asia and the Americas



Source: UNCTAD Statistics database, accessed June 22, 2017.

2016. This pattern contrasts sharply with export performance in Asia, for instance. Asia sustained a quantum leap in the 1980s, recording a peak merchandise exports of US\$6.8 trillion in 2014.

The share of global exports is lowest for Africa amongst the developing regions.

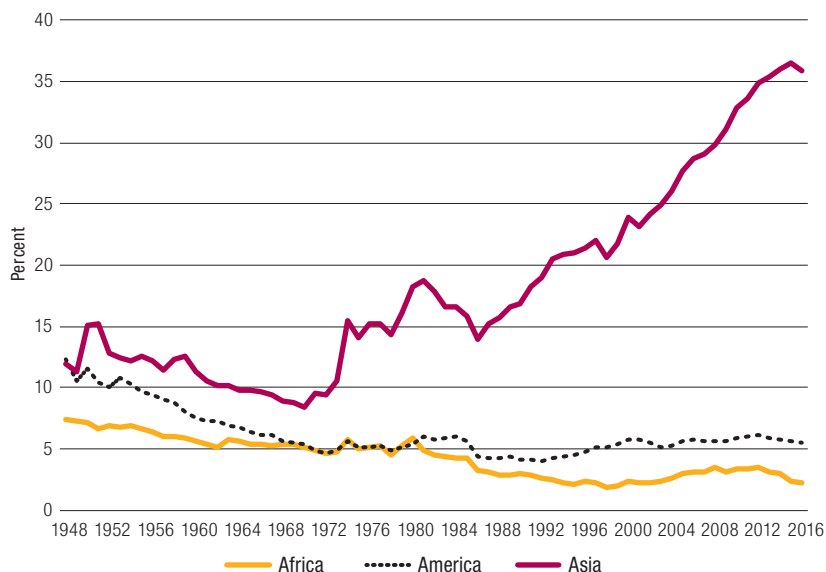
Measured in terms of total share, Africa maintained its bottom position amongst the developing country regions (Chart 2). The share of the region in global exports has been on a decline: from 7 per cent in the 1940s, through 5 per cent in the 1970s and 3 per cent in the 1980s, and to 2 per cent at the end of 2016. In contrast, Asia's share has been rising steadily, especially since the mid-1980s, from a low of 8 per cent in 1970 and currently representing 36 percent of global merchandise exports.

The pattern of African export growth, since the mid-1990s, is similar to that of other developing regions.

Since the mid-1990s when Africa's growth resurgence presumably began, the region has generally experienced similar growth rates as Asia, for instance. Indeed, Africa's best performance in exports growth was in 2000–2005, when it recorded a growth rate of 17 percent, as compared with Asia's of 15 percent (table 1). This appears to be the golden era for the region in export performance because it underperformed in other periods, when compared to other developing regions, particularly Asia. The worst performance since the 1990s was recorded most recently

Chart 2

Percentage share of total merchandise exports of Africa, compared to other developing regions of Asia and the Americas



Source: UNCTAD Statistics database, accessed June 22, 2017.

Table 1

Growth in total merchandise exports of Africa, compared with other developing regions of Asia and the Americas

	1992 – 95	1995 – 00	2000 – 05	2005 – 10	2010 – 15
Africa	5	3	17	9	-5
America	15	8	10	7	0
Asia	15	5	15	10	4

Source: UNCTAD Statistics database, accessed June 22, 2017.

in 2010–2015, however, when Africa's exports fell by 5 percent, compared with an increase of 4 percent for Asia. Understanding the basis for this decline should be of major concern, especially given the optimism of 'Africa rising' (Young, 2012) and the belief that the region had been relatively resilient in the face of the most recent global financial cum economic crisis (Fosu, 2013c).

Exports in SSA countries have demonstrated a high degree of dependence on a few primary agricultural or mineral exports. Some have attributed the dominance of

Table 2

Manufactures and agricultural raw materials exports by African countries

(Percentage of merchandise exports)

	Manufactures exports				Agricultural raw materials exports			
	2000	2005	2010	2015	2000	2005	2010	2015
Angola	..	..	1.37	1.52	..	.	0.00	0.03
Benin	7.34	9.22	4.65	26.52	71.86	64.33	26.74	45.00
Botswana	89.56	85.35	79.54	90.01	0.34	0.16	0.19	0.10
Burkina Faso	18.45	7.71	9.08	12.99	59.16	75.41	55.88	35.88
Burundi	0.48	6.23	5.93	22.23	7.57	4.23	4.90	2.86
Cabo Verde	89.81	55.81	17.50	13.85	0.03	0.00	0.00	0.00
Cameroon	3.26	2.84	7.54	8.90	9.10	19.29	14.80	16.86
Central African Republic	68.25	37.82	3.15	76.14	13.08	43.17	36.40	19.08
Comoros	8.52	12.90	31.03	..	0.00	0.07	0.53	..
Congo, Rep.	..	..	30.48	..	..	..	1.30	..
Cote d'Ivoire	14.49	18.71	16.17	8.11	13.97	8.27	9.65	8.75
Ethiopia	9.78	4.58	8.91	7.33	18.71	15.30	9.02	18.90
Gabon	2.26	3.71	..	..	11.82	7.53	Na	..
Gambia	10.78	1.57	0.98	..	1.32	1.65	0.04	..
Ghana	14.75	32.53	20.68	..	10.25	7.21	6.95	..
Guinea	30.23	12.01	..	27.17	2.99	2.26	..	3.41
Kenya	20.79	31.91	34.67	..	8.64	10.01	10.93	..
Lesotho	94.89	..	62.11	..	0.14	..	5.25	..
Madagascar	52.23	47.09	48.23	28.93	3.02	6.88	3.17	2.23
Malawi	7.45	16.27	8.96	15.36	2.93	3.80	3.35	3.98
Mali	4.73	12.03	20.19	..	90.76	68.92	47.98	..
Mauritius	80.79	57.27	60.15	66.03	0.51	0.17	0.52	0.35
Mozambique	6.67	6.50	1.97	8.42	11.33	5.11	4.36	2.73
Namibia	55.84	52.30	44.32	..	0.98	0.71	0.72	..
Niger	9.40	20.00	14.06	10.01	3.28	4.98	2.79	1.55
Nigeria	0.21	..	6.69	..	0.01	..	1.63	..
Rwanda	..	3.56	8.45	15.44	..	4.69	3.02	3.81
Sao Tome & Principe	2.60	4.51	4.66	5.14	0.10	0.47	0.67	0.30
Senegal	26.94	43.42	41.67	31.81	1.75	2.11	1.48	2.14
Seychelles	5.01	9.15	11.01	5.17	0.00	0.00	0.00	0.00
South Africa	53.85	56.66	48.68	49.37	3.38	1.98	1.77	2.20
Sudan	7.87	0.06	0.31	..	4.91	4.84	1.14	..
Tanzania	19.63	14.04	24.06	26.10	13.40	15.87	7.42	4.46
Togo	30.83	58.11	64.86	50.48	23.44	8.92	3.88	10.85
Uganda	3.11	11.54	22.85	24.64	14.99	13.25	7.25	4.86
Zambia	10.74	8.76	6.29	10.05	4.40	5.57	0.97	1.27
Zimbabwe	28.11	38.10	36.42	16.79	12.53	8.20	7.00	4.42

Source: World Development Indicators database, accessed June 18, 2017.

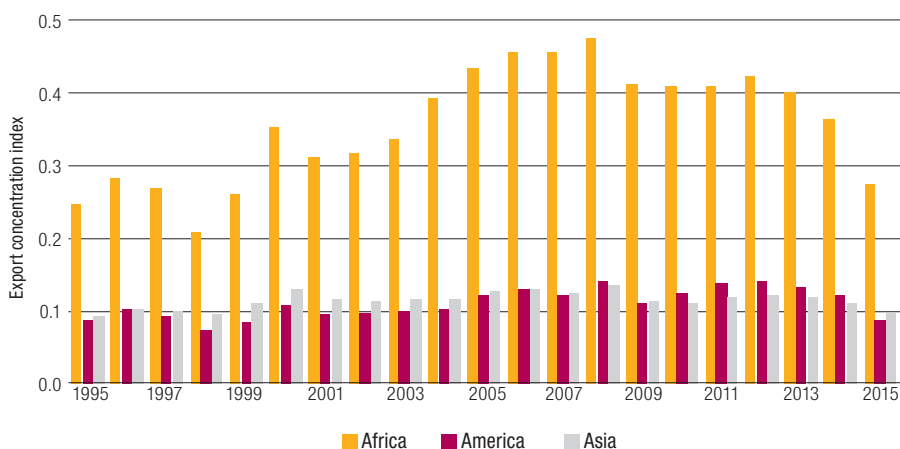
Notes: Manufactures exports (% of merchandise exports) comprise chemicals, basic manufactures, machinery and transport equipment, and miscellaneous manufactured goods, but exclude non-ferrous metals. Agricultural raw materials exports (% of merchandise exports) include crude materials except fuels, exclude crude fertilizers and minerals, coal, petroleum, and precious stones, and metalliferous ores and scrap.

agriculture and natural resources in African exports to the region's vast arable land and wealth of mineral resources. It has been estimated that unprocessed mineral and energy accounted for 80 per cent, on average, of African exports (Ancharaz 2011). And, agriculture employs between 65 and 80 per cent of the workforce in the region (Sy 2017). Characteristically, manufactures have been on the lower end, except in a few countries (Table 2).

Africa has consistently performed worst on export diversification. The evidence on export concentration (Chart 3) reveals a substantially lower (higher) level of export diversification (concentration) in Africa, compared with the other developing regions of Asia and the Americas. Furthermore, while diversification in these regions has remained about the same level since the mid-1990s, it actually shows a downward trend for the African region. The use of the bilateral export concentration index² corroborates this observation (Chart 4).

Chart 3

Export concentration index for Africa, compared with other developing regions of Asia and the Americas

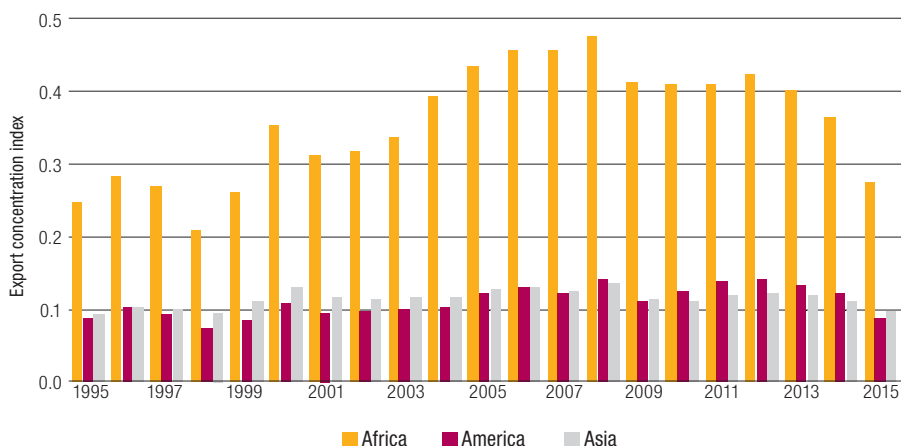


Source: UNCTAD Statistics database, accessed June 22, 2017.

² In contrast to Product Concentration and Diversification Indices that measure whether the structure of exports or imports by product of a given country or country group differs from the world pattern, the Bilateral Concentration Index provides information on the number of exported/imported products and concentration indices by country.

Chart 4

Bilateral export concentration index for Africa, compared with other developing regions of Asia and the Americas



Source: UNCTAD Statistics database, accessed June 22, 2017.

Similarly, using the export diversification index, Africa has historically exhibited the least level of export diversification (highest level of the index), compared with the other developing regions of Asia and the Americas (Chart 5), corroborating the evidence based on the export concentration index. Furthermore, while diversification appears to be increasing (decreasing index) for both Africa and Asia during the 2000s, the rate of increase seems larger for the latter. Interestingly, roughly at par with Asia's in the 1990s, the Americas' diversification level shows a distinct departure downward in the 2000s.

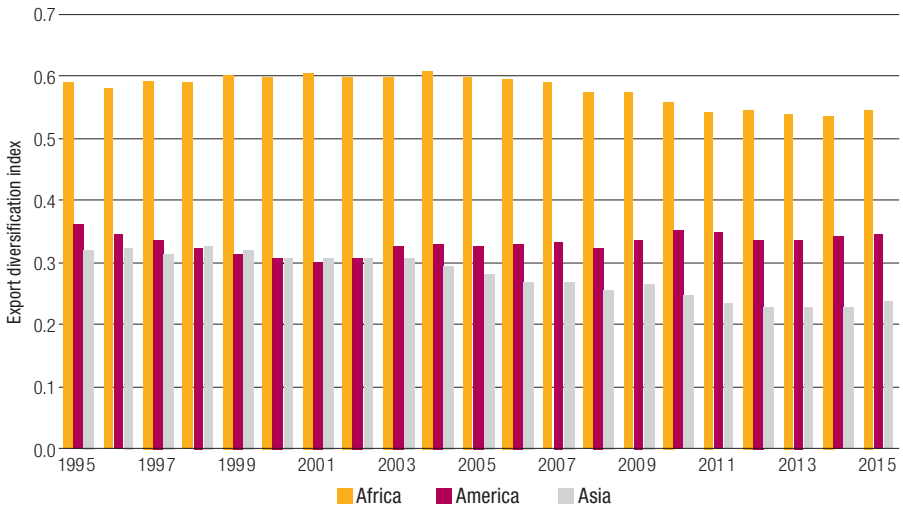
2.2 Africa's employment situation

Africa has one of the highest levels of unemployment in the world, accompanied by a low level of job creation.

SSA's average official unemployment rate was 7.2 percent in 2016, compared with the global average of 5.7 percent (ILO, 2017). The rate masks substantial variation among SSA countries, with a country like South Africa registering rates as high as 25.9 percent. The employment ratio, depicted in Chart 6, shows that about 64 percent of

Chart 5

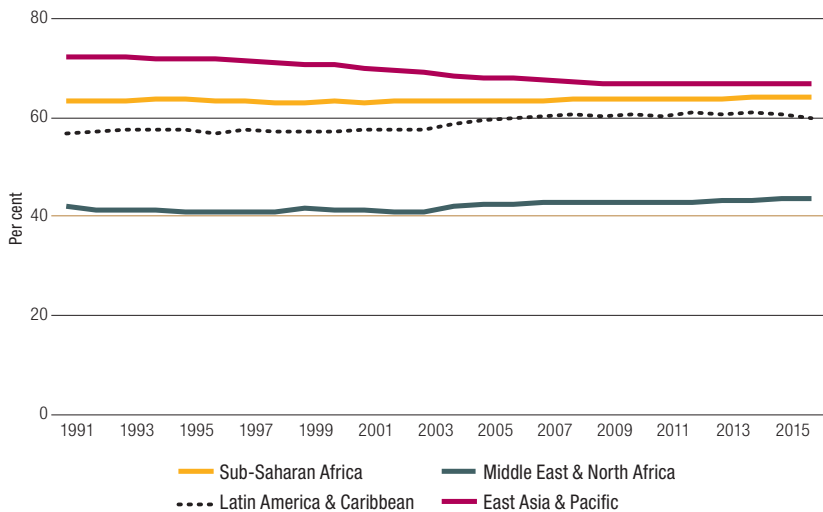
Export diversification index for Africa, compared with other developing regions of Asia and the Americas



Source: UNCTAD Statistics database, accessed June 22, 2017.

Chart 6

Total employment to population ratio, 15 years and above (Percentage)



Source: World Development Indicators database, accessed May 21, 2017.

SSA's population is employed, higher than the levels in Latin America and the Caribbean as well as in North Africa and the Middle East, but slightly lower than the average rate in East Asia and the Pacific. In effect, however, this ratio overstates 'effective' employment, since it does not account for hours worked, decency of the work, or livable earnings. Taking into account such attributes, the 'vulnerable employment', which accounts for the working poor and lack of employment benefits, was 68.0 percent of the employed in SSA for 2016, while the global corresponding average was 42.9 percent (ILO, 2017). Thus, only roughly 20 percent of SSA's population enjoys non-vulnerable employment.

The youth are the highest victim of unemployment in Africa

Africa has the youngest population structure, not just among the developing regions, but also in the world. The region is expected to remain the world's youngest region with the mean population averaging below 25 years. It is estimated that of the 420 million African youth aged between 15 and 35 years, majority of them are unemployed, underemployed or in vulnerable employment. Currently, about 31 per cent of African youth are unemployed and this represents 60 per cent of the unemployed people on the continent. Furthermore, over 70 percent of young workers in Africa are underemployed (Betcherman and Khan 2015).

According to AfDB (2016), while 10 to 12 million youths are estimated to enter into the job market annually, only 3 million jobs are created. The report projects that 18 million jobs need to be created annually between 2015 and 2035 in order to absorb youth entering the labor market for the first time. In contrast, however, only 3 million jobs are created. Youth innovativeness is a major asset that needs to be put to good use by policymakers. In most instances, youth are ever exploring innovative ways to exploit and express their skills and capabilities in diverse sectors that include agriculture, agro-processing, information and communication technology, and services. They are mainly found in the informal sectors, a subject that is discussed next.

Understanding the employment situation: Africa's informal sector is dominant

SSA has a dominant informal sector, ranging from as low as 20 per cent to as high as 65 per cent (Medina, Jonelis and Cangul 2017). Hence, informal employment is expectedly high. The informal economy is estimated to account for an average of 66 per cent of non-agricultural employment in sub-Saharan Africa (Roever 2014). However, in countries like Mali and Madagascar the figure is higher than 80 per cent while it is 94 per cent in Uganda. When agricultural employment is considered, the figure rises to 74 per cent for women and 64 per cent for men. Furthermore, agriculture is the largest informal sector for women's employment in SSA, accounting for approximately 60 per cent of the employment (UN 2015). The dominance of informality explains much of the high rate

of vulnerable employment in SSA. For instance, it is estimated that about 80 per cent of those employed in SSA in 2014 were in different forms of vulnerable employment, much higher than the global average of 45 per cent (ILO 2015).

Several reasons have been proffered for the dominance of the informal sector and its large employment share (see Medina et al. 2017). The first is that high levels of poverty force individuals to accept employment or undertake menial and informal jobs. Second, weak employment conditions, especially in the formal sector, increases competition for the limited available jobs, forcing the excess supply of labor to be allocated in the informal sector. Third, institutional weaknesses in regulation, taxation, and private property rights encourage informality. Finally, the lack of capacity in the areas of education, training and skills limit the ability of certain workers to participate in formal economic activities, thus compelling them to engage in informality.

The large informal sector in Africa and LDCs presents both opportunities and challenges. One of the major opportunities is that it could serve as a fertile ground for entrepreneurship and business start-up. It also provides large employment for people. One wonders what the unemployment situation in Africa would have been in the absence of the informal sector.

There are many daunting challenges as well associated with informality. First, the sector is characterized by low productivity, in part because it tends to attract relatively low-skill workers. Second, informal activities lack regulation and formal contracts, thus exposing employment and general activities in this sector to unpredictable shocks. Absence of regulation and formal contracts also implies that workers are unable to seek legal redress when they perceive that their rights have been infringed upon. Third, informal employment undermines labour market inclusiveness. Workers are neither protected nor insulated from arbitrary wage determination and non-payment and layoffs that are determined by the whims and caprices of the employer. They are also exempted from social and employment benefits, especially health and work hazard insurance and pension. Such factors render informal workers vulnerable. Finally, a large informal sector denies the government the potential tax revenues, as tax efforts in the sector tend to be rather costly.

As informality tends to cause vulnerable employment, Africa's economic structure that lacks diversification in base and exports is a major cause of unemployment in the region (Betcherman and Khan 2015). The main source of economic activities, which is agriculture, has remained largely dominant and static for decades. Structural change and transformation that results in economic cum export diversification holds the potential for sustained growth, with positive implications for meaningful employment in the region and other LDCs.

3. Literature Review

3.1 Export Diversification, Growth and Employment: Theoretical Foundations

The theoretical postulation on the relationship between trade and employment dates back to the work of classical economists. Ricardo (1817) proposed the theory of comparative advantage that a country should specialize in the production and export of commodities for which it has comparative advantage and import those for which it has comparative disadvantage. However, the Ricardo formulation entailed certain limitations. First, it failed to consider the role and impact of the structure and composition of trade in the development process. Second, it ignored other factors required in production, such as capital and technology, considering only labour value.

Subsequently, Heckscher (1919) and Ohlin (1933) (HO) proposed an extension of the Ricardo formulation by postulating exogenous differences in factor endowments as the basis for trade. The implication of HO, then, was that (African) developing countries would specialize in producing primary products in which they have a comparative advantage due to the abundance of land and unskilled labour. Indeed, an important thrust of what later became the Heckscher-Ohlin-Samuelson (HOS) framework was that employment would ultimately be re-distributed from the import-substituting sector to the export sector as a country specialized in the production and export of primary commodities. If trade could induce growth, then it might increase employment via derived demand. The issue then is what would be the distribution of benefits of growth across the various factors of production?

The Stolper-Samuelson theorem, which proposes a one-to-one correspondence between prices of products and prices of factors, implies that trade liberalization would likely raise the demand for resources used in the production of commodity exports. Since many African countries have a comparative advantage in the export of labor-intensive commodities, an important implication is that trade liberalization would lead to an increase in labor employment. Protectionist policies would, therefore, limit production of the commodity and, hence, reduce employment. In contrast, trade policy, especially export liberalization, would stimulate employment in sectors that produce the commodity benefitting from liberalization. Such a commodity need not be a primary product, however. Indeed, the production of resource commodities (mining) is likely to be relatively capital intensive and would have little impact on employment. The basic issue, then, is the extent to which export diversification involves relatively labor-intensive production and, hence, greater employment than the production of primary products.

Labor theory suggests that greater labor attachment to firms in the form of full-time employment is likely to generate relatively meaningful employment and less vulnerable employment. Hence, if exports diversification provides such an outcome, then it is more desirable than specialization in primary products in this regard. Structural theories of economic development postulate that export diversification promotes sustainable growth and development (Chenery 1979 and Syrquin 1989). This view is predicated on the notion that a greater share of manufacturing tends to result in larger long-term growth in developing countries (Fosu, 1990a; Sachs and Warner, 1997; Greenaway et al., 1999). Indeed, Fosu (1990a, 1996) suggest that it is the manufacturing component that seems to be responsible for such long-term growth, with the primary share effect being nil. One possible channel through which sustained economic growth and development are achieved by means of export diversification is the reduction in vulnerability to export and exchange rate shocks resulting from fluctuations in prices of primary commodities. Another is the backward and forward linkages often associated with such diversification. Technology spillover has also been identified as a channel through which export diversification positively influences growth and employment (Agosin 2007). New technology, new knowledge and new practices are believed to be among the by-products of export diversification, resulting from spillovers emanating from trade. Countries at low levels of technology can widen the scope of their technology frontier and, consequently, their comparative advantage by imitating and adapting technologies they access through exports and value-addition.

There are also studies that have focused on the role of terms of trade in growth and employment. For example, the Prebisch-Singer hypothesis (Prebisch 1950 and Singer 1950) posits that, in the long-term, terms of trade of agricultural commodities would decline relative to those of manufactures. To the extent that terms of trade have a positive effect on long-term growth, then a more diversified export that includes greater manufacturing would be beneficial for growth and employment. Underlying this hypothesis is the notion of lower respective income and price elasticities of demand associated with primary products compared with manufactures. The lower income elasticity implies that the relative price of primary products would fall in the longer term as the world became richer, resulting in less export revenues in the light of a relatively price inelastic demand.

A key outcome of the Prebisch-Singer hypothesis in terms of policy implementation is the import substitution industrialization pursued by developing countries in the 1960s and 1970s. The theory provides the rationale for developing economies to diversify away from primary commodities into manufactures and, perhaps, services. In addition, the policy predicts that the benefits that countries derive from engaging in international trade would remain uneven, depending on the nature of exports. While countries exporting

mainly primary commodities, typically the developing countries, would increasingly lose with trade due to declining terms of trade, according to the theory, countries exporting mainly manufactures, typically the developed industrialized countries, would gain in the long-run.

In sum, there has been a significant theoretical shift over the years. The initial classical and neoclassical economic thought was that a country should specialize in producing and exporting a commodity in which it had a comparative advantage and, thus, use more of the factor in which it had a relatively large endowment. That meant that (African) developing countries would produce and export primarily primary products and import manufactures. In contrast, more recent theories have emphasized the need for export diversification into manufacturing in developing countries. Indeed, the empirical evidence seems to be in concert with the latter theories, in that those countries pursuing export diversification have performed better in terms of sustained growth and development. Further, the theory of derived demand suggests that such growth would likely result in relatively large demand for labor, resulting in higher employment, though the rate of increase would be dependent on the labor-intensive nature of the technology employed.

3.2 Export Diversification, Growth and Employment in Africa: The Empirical Literature

3.2.1 Export diversification vs. specialization

A major implication of classical theories of trade is that African countries would specialize in exporting commodities in which they enjoyed comparative advantage and import manufactured goods. Employing the Krueger-Leamer variant of the Heckscher-Ohlin model, Wood (2003) provides evidence showing that differences in factor endowments between Africa and Asia explained why Africa's export structure is biased towards natural resource-based commodities rather than labor-intensive manufacturing exports. Hence, the study concludes that increased trade would induce contraction or slower growth of the manufacturing sector in African countries compared to their Asian peers. The study provides empirical support for the classical view on the differences in the patterns of trade between Africa and Asia.

There is also significant evidence challenging the classical view on trade and specialization. For instance, in one of the early studies on the subject, Michaely (1958) employed export and import concentration measures, based on the GINI coefficient for 44 countries and 150 Standard International Trade Classification (SITC) commodities, to shed light on the specialization/diversification debate. The study provided support for

export diversification based on the finding that economies with more diversified export structures were more developed in terms of income per capita. The study also found that export diversification yielded greater support for stabilizing export earnings in the longer-run, with favorable implications for employment. This result was later corroborated by Ghosh and Ostry (1994) and Bleaney and Greenaway (2001). More recently, Matthee and Naudé (2008) has provided empirical evidence to buttress the need for African countries to diversify their exports. The study employed export data on South African exports from 19 sectors in 359 magisterial districts. Using various measures of sub-national export diversification based on the HHI, the study found that magisterial districts with greater diversification tend to experience higher economic growth, and therefore, contribute more to the overall economic growth (and employment) for South Africa.

The current view, buttressed by the empirical literature, then appears to be in favor of export diversification as a vehicle for generating growth. However, the literature on trade and growth is quite vast. The next section attempts to provide a brief summary of it, since it forms a critical foundation for the likely channel through which trade would be expected to yield employment dividends.

3.2.2 Trade and growth

Exports could have positive employment effects in an economy through their impact on growth via the theory of derived demand. This is the scale effect. A necessary condition for export diversification influencing employment, as a result of the scale effect, would be that export diversification positively affected economic growth. In this section, then, we provide a brief review of the export-led hypothesis, with implications for African economies. Since we are primarily interested in the role of exports, we shall limit our account to studies involving exports, or more broadly trade as appropriate, rather than openness generally.³

There appears to be a consensus that trade contributes favorably to growth, with most studies establishing a positive relationship between trade and economic growth, irrespective of measures of trade, time period, or the number of countries employed. Based on incomes and trade shares for a sample of at least 98 countries for 1985, Frankel and Romer (1999) report that “trade has a quantitatively large and robust, though only moderately statistically significant, positive effect on income.” (p. 379). Similarly, Irwin and Terviö (2002) uncover positive trade effects based on a comprehensive analysis covering 1913–1990, using the trade share in GDP as a measure of trade. For a period covering 1961–2000, Lee, Ricci and Rigobon (2004) also establish a positive

³ ‘Openness’ and ‘trade’ are not synonymous. As argued in Fosu (2002b), for instance, greater export performance may actually be accompanied by higher trade restrictions associated with imports.

relationship between trade shares and growth. A similar favorable effect of trade is observed by Dollar and Kraay (2004) over the 1980s and 1990s for approximately 100 countries. Furthermore, adopting a variety of trade measures — including export share, import penetration, and trade shares in GDP — to assess the impact of trade on economic growth for more than 100 countries that included SSA countries for 1970–1997, Yanikkaya (2003) find that all the measures resulted in positive relationships with growth. For 82 countries covering 1960–2000, Chang et al. (2009) also uncover positive effects of trade on growth, though these results are conditioned on the implementation of complementary reforms.

Feyrer (2009) equally find a positive relationship between trade and growth, but with differences across countries. Using trade measures with geography as an instrument for 97 countries in 1985, Noguer and Siscart (2005) also establish a positive impact of trade on growth, with a 1 percent increase in the measure of trade share of GDP inducing around 1 percent increase in income per capita.

Focusing exclusively on African countries and exports, Fosu (1990a) employed an augmented production function to estimate the export growth effect on GDP growth of 0.12 for the 1960–1980 sample period, compared with 0.15 for non-African developing countries, though these estimates were not statistically distinguishable. Extending the above sample period to 1990, Lussier (1993) concluded: “The extended empirical investigation corroborates Fosu’s conclusion regarding the positive contribution of export growth to economic growth in African countries when panel data are employed.” (Lussier, 1993, p. 117). Remarkably, Lussier’s respective estimates of the export effect of 0.11 and 0.10 for African and SSA countries were nearly identical to Fosu’s of 0.12. Indeed, estimates from various studies reported in Fosu (2002b, table 2, p. 292) are very similar to these values.

More recently, based on a sample of 41 SSA countries and covering 1979 – 2009, Brückner and Lederman (2012) similarly found a positive relationship between trade and growth. Specifically, a 1 percentage point increase in the ratio of trade to GDP is associated with approximately 0.5 percent short-term increase in growth per year, and about 0.8 percent after ten years.

3.2.3 Export diversification and growth

From the above studies, it can be inferred that trade is positively associated with economic growth. However, these studies do not account for the composition of exports. More precisely, what is the role of export diversification in promoting growth?

Export composition has been found to be consequential for economic growth.⁴ For example, estimating an augmented production function involving 64 developing countries for 1960–1980, Fosu (1990b) found that it was the manufacturing share of exports that really mattered for economic growth, with little or no effect from the primary component, while the manufacturing share exerted a differential positive impact. Similarly, based on 76 developing countries over 1967–1986, Fosu (1996) estimated near-zero effect of primary exports on the non-export sector, suggesting that their impact has little spillover into the non-export sector. The author concludes: “Thus, the current finding seems at odds with the premise underlying policies to promote primary export expansion as the engine of growth...Clearly, such policies could enhance growth initially, for primary exports are positively associated with overall GDP. The current study, however, casts some doubt on the sustainability of the primary export-led growth, as negligible effects would be transmitted to the non-export sector, which constitutes the bulk of the economies in most LDCs.” Fosu (1996, p. 474). Fosu (2002b) reviews a large number of studies on export composition and growth, with special reference to African economies. The author concludes: “Taken together, however, the above studies imply the desirability of pursuing policies that alter endowments in order to achieve export diversification and concomitant economic growth.” (Fosu, 2002b, p. 293)

More recently, Amurgo-Pacheco and Pierola (2008) developed methodologies that distinguished between exports growth along intensive margins - existing products to existing markets - and extensive margins involving: new products to existing markets; old products to new markets; and new products to new markets. Analyzing exports from 64 developing countries to 29 developed countries over 1990 – 2009, the study found that developing countries with higher levels of exports diversification tend to record higher economic growth rates. Furthermore, extensive margin was observed as the dominant force explaining exports growth of developing countries, accounting for 37 percent in SSA countries. Similarly, Brenton and Newfarmer (2007) estimated this rate to be even higher at 57 percent for African countries.

Rondeau and Roudaut (2015) apply similar methods as in Brenton and Newfarmer (2007) and Amurgo-Pacheco and Pierola (2008) to a sample of 64 developing countries, examining the effects of trade diversification on per capita GDP growth of 64 developing countries. This involves a breakdown of trade in the sample countries into three, namely, old traded flows, geographic diversification, and product diversification. Estimating the augmented Solow model by system-GMM over 1990–2009, the study found that diversification has a positive effect on growth. It is interesting to note, however, that this

⁴ For details see Fosu (2002b), which provides a detailed summary of the various studies and the rationale for why export composition matters for growth.

positive effect decreases with the level of GDP per capita. One main policy implication of the finding is that for developing countries to promote sustained economic growth, the priority should be on product export diversification rather than partner market diversification.

3.2.4 Exports and employment

Three methodologies are usually employed in the empirical estimation of the relationship between exports and employment. These techniques are: factor content, growth accounting, and labour demand. The factor content technique examines the relationship between exports and overall employment by focusing on the question of whether a change in the structure of production resulting from greater exports is capable of increasing the labour-intensity of production. The technique is used to estimate both the direct and indirect labour needs per unit of exports and imports substitutes, and requires the use of input-output tables, especially to estimate the direct labour requirements.

One major weakness of the factor content approach is that it has limited application because it can only estimate the labor needs of exports and imports, rather than the effects of trade on employment per se. Hence, the approach deals only with the technical requirements, without accounting for demand factors.

The growth accounting approach, which is capable of decomposing exports effects on factors beyond just the technical requirements, is considered superior to the factor content approach. The analysis begins with the basic accounting identity and uses Chenery-type decomposition. A key assumption of this technique is that increases in exports create more employment while higher import penetration reduces employment. The power of decomposition and its ability to separate scale effects from composition effect of trade on employment are the major strengths of this technique. However, a downside of this methodology is the arbitrariness of its decomposition. In addition, the results emanating from its application cannot be interpreted as causal because the analysis is based on an accounting identity (Martin and Evans 1981).

Both of the above techniques estimate the effects of trade on employment through changes in labour-intensity of production. However, while the factor content approach estimates the effects across industries, the growth accounting technique does this through changes in output emanating from import penetration or export expansion. Both methodologies, therefore, seem to ignore possible output changes in the efficiency of labour use within the industry. To overcome the observed shortcomings of these techniques, a third approach — labour demand modeling — was introduced.

The labour demand modeling method estimates labour demand at the industry level in order to identify the relevant explanatory variables, including measures of trade and presumably export diversification. According to this framework, following trade liberalization, employment would increase in the exportable sector, decrease in the importable sector, and its effect would be indeterminate in the non-tradable sector; however, the overall employment effect would be indeterminate, depending on the elasticity of substitution of labor in each of the sectors (Edwards, 1988; Milner and Wright, 1998; Fosu, 2002a; Fosu and Mold, 2008). Using the labor demand methodology, Milner and Wright (1998) find that trade liberalization that led to greater industrialization and export diversification in Mauritius increased overall employment, and particularly for women.

However, the extant evidence seems rather mixed. For example, employing firm-level data for the period covering 1997 and 1998, Edwards and Golub (2004) observed that export diversification exerted negative effects on labor demand for both skilled and unskilled workers in South African large manufacturing firms. Using an applied general equilibrium model, Naude and Rossouw (2011) estimated the effect of export diversification on employment for Brazil, China, India and South Africa for a period covering 1962 to 2000. They found that export diversification had positive impacts on employment only in South Africa, while export concentration had a more beneficial effect on employment in the other countries. Appealing to the U-shaped relationship between a country's export basket and economic development, the authors concluded that exports diversification is beneficial to employment only at the early stages of development.

Songwe and Winkler (2012) assessed the effects of exports and exports diversification on value-added, labor productivity, and conditional and unconditional labor demand in a panel of 30 selected African countries for the period covering 1995 and 2008. They found that export diversification of products and markets increased value-added and labor productivity, but not labor demand. Hence, it would be difficult to argue that diversification would increase employment in this instance.

4. Export Diversification and Employment – Some Econometric Evidence

The review of the literature on the effect of export diversification on employment, suggests that the impact of export diversification on employment is not unambiguous. It appears to differ across countries. However, this finding does not necessarily suggest that the effect is country-specific per se. It is instead likely that the nature of the economy might influence the relationship between diversification and employment. In this section, we attempt a cross-country econometric analysis of the effects of export diversification on different measures of employment.

The empirical analysis is conducted over 1991-2010, for which sufficient data are available. While the export diversification data extend into the 1960s, the employment data start from 1991. The indicators of employment used in the analysis are: the employment rate (EMP), measured as the share of the population that is employed; the labor force participation rate (LFP), which is the proportion of the population engaged in economic activities; industrial employment (IEMP), measured as the share of the population employed in industry; and vulnerable employment (VEMP), which is the proportion of employment that is considered vulnerable. Based on data availability, different samples are used. The EMP and LFP samples comprise 90 developing countries, 46 of which are African; the IEMP sample consists of 50 countries, 33 of which are developing, none of which are African, and 17 advanced; and the sample for VEMP has 38 countries, with 22 of them being developing, none of which are African, and 16 advanced.

Variable definitions and data sources are provided in appendices B and C, respectively. The export diversification index is used as the main explanatory variable for employment.

Correlation coefficients are first obtained for the export diversification index (XDIV) versus all four employment measures, based on annual data and using the corresponding sample for each respective measure. The summary statistics and correlation results are reported in Appendix Tables B1 and B2, respectively; the lists of sample countries are in Appendix Tables C1-C3, with the data sources provided in Appendix Table C4.

As Table B2 clearly shows, all four measures of employment are correlated, at the 0.01 level, with the export diversification index and in the anticipated direction. Since the index decreases with the degree of diversification, the reported negative sign for EMP, LFP and IEMP indicates that employment expands with export diversification, while the positive sign for VEMP suggests that vulnerable employment declines with

diversification.

To better reveal the underlying relationships for the above correlation results, we report in Tables 3-6 cross-country regression results. We opt for this procedure, in order to obtain relatively long-term impacts (two-decade average: 1991-2010, and 2000-2010 for VEMP). Although, OLS is the estimating method, potential heteroscedasticity is accounted for by use of robust t-statistics, based on heteroscedasticity-consistent standard errors.

Table 3 shows generally that the employment rate of individuals 15+ years of age (EMP) tends to increase with export diversification in developing countries; however, this favourable impact is lower for African countries as a group (see particularly model E.2).

Similar results as in the case of EMP are obtained for labor-force participation (LFP), as shown in table 4 (see especially model L.2). Table 5 also shows that the industrial share of total employment (IEMP) rises with export diversification in both advanced and developing countries about equally (see particularly model I.2).

Table 3

Cross-Country Regression Results: Export Diversification and Employment (EMP), Developing Countries (DVG), including Africa (AF)

	(E.1)	(E.2)	(E.3)	(E.4)	(E.5)	(E.6)	(E.7)	(E.8)
Variables	EMP	EMP	EMP	EMP	EMP	EMP	EMP	EMP
XDIV	-0.988 (-0.74)	-3.127** (-2.01)	-2.512 (-1.32)	-2.234 (-1.08)	-2.778 (-1.65)	-0.633 (-0.43)	-2.397* (-1.69)	-2.032 (-1.32)
XDIV*AF		1.704** (2.40)	0.240 (0.08)	0.430 (0.15)	1.744** (2.42)			
AF			6.077 (0.54)	5.451 (0.47)			7.007** (2.44)	7.114** (2.46)
LPOP				0.930 (1.25)	0.953 (1.27)	0.846 (1.10)		0.922 (1.22)
Constant	63.73*** (12.74)	68.20*** (13.00)	65.92*** (10.34)	49.72*** (3.21)	51.37*** (3.52)	48.69*** (3.21)	65.53*** (13.53)	49.18*** (3.40)
Observations	90	90	90	90	90	90	90	90
R-squared	0.007	0.072	0.075	0.088	0.085	0.018	0.075	0.088
Adj. R-squared	-0.004	0.050	0.043	0.045	0.054	-0.005	0.054	0.056
Root MSE	12.29	11.95	12	11.99	11.93	12.29	11.93	11.92

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Notes: Data involves 90 developing countries of which 46 are African. The dependent variable is EMP, the employment-to-population ratio (ages 15+); XDIV is the export diversification index; AF is African countries dummy-variable, which equals 1 if a country is African, zero otherwise; XDIV*AF is the relevant interaction variable; and LPOP is total population, expressed in logarithm. All variables annual averages over 1991-2010.

Table 4

Cross-country Regression Results: Export Diversification and Labor Force Participation (LFP), Developing Countries including Africa (AF)

	(L.1)	(L.2)	(L.3)	(L.4)	(L.5)	(L.6)	(L.7)	(L.8)
Variables	LFP	LFP	LFP	LFP	LFP	LFP	LFP	LFP
XDIV	-0.764 (-0.63)	-3.424*** (-2.66)	-2.835* (-1.90)	-2.713* (-1.71)	-3.266** (-2.40)	-0.638 (-0.49)	-2.493** (-2.03)	-2.338* (-1.79)
XDIV*AF		2.118*** (3.61)	0.717 (0.29)	0.800 (0.32)	2.136*** (3.60)			
AF			5.818 (0.57)	5.543 (0.54)			8.594*** (3.42)	8.639*** (3.41)
LPOP				0.408 (0.59)	0.431 (0.62)	0.301 (0.41)		0.392 (0.56)
Constant	68.14*** (14.87)	73.69*** (16.12)	71.51*** (13.70)	64.40*** (4.73)	66.07*** (5.04)	62.79*** (4.42)	70.34*** (16.29)	63.38*** (4.86)
Observations	90	90	90	90	90	90	90	90
R-squared	0.005	0.124	0.128	0.131	0.127	0.007	0.127	0.130
Adj. R-squared	-0.006	0.104	0.097	0.090	0.097	-0.016	0.107	0.099
Root MSE	11.27	10.64	10.68	10.72	10.68	11.33	10.62	10.66

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Notes: The dependent variable is LFP, labour force participation rate, measured as the percentage share of total population (ages 15+) engaged in economic activities. See appendices B and C for variable definitions and data sources, respectively.

Finally, according to the results reported in Table 6, the vulnerable employment share of total employment (VEMP) generally decreases with export diversification overall (models V.1 and V.6). However, this result does not appear to hold for advanced economies (models V.2 and V.5).

Some SYS-GMM Panel Results

These cross-country empirical results are in concert with the theoretical prediction that (meaningful) employment would likely increase with export diversification. As is currently well-understood in the literature, however, such cross-section results do not account for the possibility of reverse causality from employment to export diversification or of unobserved factors driving both variables. The present results should be interpreted as associations, rather than directional effects.

To provide some robustness for our estimates, we now exploit the availability of annual panel data using the two-step SYS-GMM estimation methodology that can potentially address the above concerns of endogeneity. Reported in tables 7-10 are the panel regression results for the various measures of employment. These results generally satisfy the usual 'desirable' properties of the estimators: over-identification (Hansen J), non-existence of especially second-order serial correlation (AR2), and absence of instruments proliferation.

Table 5

Cross-country Regression Results: Export Diversification and Industrial Employment (IEMP), Developing (DVG) and Advanced Countries

	(1.1)	(1.2)	(1.3)	(1.4)	(1.5)	(1.6)	(1.7)	(1.8)
Variables	IEMP	IEMP	IEMP	IEMP	IEMP	IEMP	IEMP	IEMP
XDIV	-3.574*** (-4.74)	-2.856** (-2.34)	-3.925*** (-3.11)	-3.314** (-2.19)	-2.245 (-1.30)	-3.438*** (-3.89)	-3.028*** (-3.16)	-2.514* (-1.81)
XDIV*DVG		-0.499 (-0.78)	1.301 (0.74)	1.090 (0.66)	-0.715 (-0.91)			
DVG			-4.646 (-0.95)	-4.662 (-0.94)			-1.664 (-1.00)	-2.218 (-1.04)
LPOP				0.378 (0.63)	0.376 (0.64)	0.170 (0.36)		0.419 (0.70)
Constant	32.30*** (15.02)	31.37*** (12.27)	33.70*** (11.21)	26.17** (2.16)	23.87* (1.88)	29.09*** (3.07)	31.93*** (14.35)	23.92* (1.95)
Observations	50	50	50	50	50	50	50	50
R-squared	0.313	0.321	0.334	0.341	0.328	0.315	0.328	0.337
Adj. R-Squared	0.299	0.292	0.290	0.283	0.285	0.286	0.299	0.294
Root MSE	4.567	4.589	4.595	4.619	4.613	4.609	4.566	4.583

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Notes: In this case, the dependent variable is industrial share of employment (IEMP), and data involves 50 countries, of which 27 are developing countries (DVG) and 23 Advanced economies (AD).

Table 6

Cross-country Regression Results: Export Diversification and Vulnerable Employment (VEMP), Developing (DVG) and Advanced Countries (AD)

	(V.1)	(V.2)	(V.3)	(V.4)	(V.5)	(V.6)	(V.7)	(V.8)
Variables	VEMP	VEMP	VEMP	VEMP	VEMP	VEMP	VEMP	VEMP
XDIV	8.111*** (3.09)	-7.997** (-2.28)	-2.097 (-1.39)	0.592 (0.29)	-5.391 (-1.48)	10.50*** (3.50)	-0.886 (-0.38)	1.144 (0.47)
XDIV*DVG		10.80*** (6.04)	1.663 (0.47)	0.741 (0.21)	9.982*** (6.03)			
DVG			22.08* (1.89)	22.31* (1.97)			25.71*** (5.64)	23.91*** (5.62)
LPOP				2.711* (1.83)	2.687* (1.72)	4.635** (2.24)		2.728* (1.88)
Constant	5.215 (0.77)	27.47*** (3.85)	15.27*** (3.76)	-35.95 (-1.30)	-23.18 (-0.79)	-79.23** (-2.17)	12.93** (2.66)	-37.30 (-1.38)
Observations	38	38	38	38	38	38	38	38
R-squared	0.174	0.598	0.631	0.670	0.636	0.296	0.630	0.670
Adj. R-Squared	0.152	0.575	0.598	0.630	0.604	0.256	0.609	0.641
Root MSE	14.58	10.32	10.03	9.627	9.956	13.65	9.901	9.487

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Notes: Similar to notes in table 5, but the dependent variable is the share of employment that is vulnerable (VEMP), and data involves 38 countries of which 22 are developing (DVG) and 16 advanced (AD).

Table 7

Two-Step SYS-GMM Panel Regressions: Export Diversification and Employment Ratio, Developing and African (AF) Countries, 1991-2010

	(E.1)	(E.2)	(E.3)	(E.4)	(E.5)	(E.6)	(E.7)	(E.8)
Variables	EMP	EMP	EMP	EMP	EMP	EMP	EMP	EMP
XDIV	1.2156 (1.09)	-6.3295*** (-2.64)	-6.3441** (-2.39)	-2.3330 (-1.43)	-2.1233 (-1.06)	3.2396** (2.18)	-3.9646* (-1.71)	0.0738 (0.08)
XDIV*AF		2.6794*** (2.95)	2.6902 (1.18)	1.8113** (1.98)	1.1600 (0.52)			
AF			-0.0698 (-0.01)		2.0076 (0.25)		10.2175** (2.43)	7.1770** (2.31)
LPOP				1.4218** (2.09)	1.3148** (1.99)	1.8885** (2.35)		1.9740*** (3.90)
Constant	54.7938*** (12.28)	78.5704*** (9.55)	78.6384*** (8.71)	42.2001*** (3.12)	43.4285*** (3.26)	16.7138 (1.07)	69.7251*** (9.06)	24.1019*** (2.66)
Observations	1,794	1,794	1,794	1,794	1,794	1,794	1,794	1,794
Number of Countries	90	90	90	90	90	90	90	90
No. of instruments	41.0000	79.0000	79.0000	79.0000	79.0000	41.0000	41.0000	41.0000
AR1 p-value	0.8730	0.2246	0.2052	0.9974	0.9120	0.2344	0.2399	0.8595
AR2 p-value	0.3767	0.9487	0.9499	0.3113	0.3298	0.9257	0.9123	0.3203
Hansen p-value	0.1625	0.4098	0.3801	0.4954	0.4786	0.6300	0.4959	0.5967

Notes: Robust z-statistics in parentheses. XDIV is the export diversification index, which decreases with export diversification, so that a positive coefficient indicates a negative effect of export diversification. LPOP is the log of population. Definitions of variables and their data sources are provided in appendices B and C. * Significantly different from zero at the 10 percent level; ** Significantly different from zero at the 5 percent level; *** Significant different from zero at the 1 percent level.

Table 8

Two-Step SYS-GMM Panel Regressions: Export Diversification and Labor Force Participation, Developing and African (AF) Countries, 1991-2010

	(L.1)	(L.2)	(L.3)	(L.4)	(L.5)	(L.6)	(L.7)	(L.8)
Variables	LFP	LFP	LFP	LFP	LFP	LFP	LFP	LFP
XDIV	3.8530** (2.08)	-5.0847** (-2.19)	-4.6960** (-2.00)	-2.6535** (-2.35)	-2.1442 (-1.22)	4.5487** (2.38)	-3.4045* (-1.78)	-1.2647 (-0.81)
XDIV*AF		2.6322*** (3.60)	0.8245 (0.30)	2.0159*** (3.36)	-0.0545 (-0.02)			
AF			7.2286 (0.60)		8.0669 (0.71)		8.5049*** (2.67)	6.8486** (2.52)
LPOP				0.7091 (1.01)	0.7749 (1.13)	1.5803* (1.88)		0.7484 (1.14)
Constant	50.8942*** (7.56)	79.0506*** (10.11)	78.0593*** (10.25)	59.4893*** (4.42)	57.0981*** (4.19)	22.3580 (1.33)	74.2445*** (11.45)	54.9380*** (4.19)
Observations	1,794	1,794	1,794	1,794	1,794	1,794	1,794	1,794
Number of Countries	90	90	90	90	90	90	90	90
No. of instruments	71.0000	71.0000	71.0000	141.0000	171.0000	72.0000	72.0000	72.0000
AR1 p-value	0.9466	0.1407	0.9914	0.0000	0.1168	0.6731	0.7171	0.0006
AR2 p-value	0.1414	0.0057	0.1198	0.0000	0.0007	0.3773	0.0266	0.0000
Hansen p-value	0.5679	0.6026	0.5453	0.9999	1.0000	0.5154	0.4329	0.4476

Notes: Robust z-statistics in parentheses. XDIV is the export diversification index, which decreases with export diversification, so that a positive coefficient indicates a negative effect of export diversification. LPOP is the log of population. Definitions of variables and their data sources are provided in appendices B and C. * Significantly different from zero at the 10 percent level; ** Significantly different from zero at the 5 percent level; *** Significant different from zero at the 1 percent level.

Table 9**Two-Step SYS-GMM Panel Regressions: Export Diversification and Industrial Employment, Developing (DVG) and Advanced Countries, 1991-2010**

	(I.1)	(I.2)	(I.3)	(I.4)	(I.5)	(I.6)	(I.7)	(I.8)
Variables	IEMP	IEMP	IEMP	IEMP	IEMP	IEMP	IEMP	IEMP
XDIV	-3.9678*** (-4.24)	-3.1720*** (-2.87)	-3.7898*** (-3.97)	-2.6094* (-1.94)	-3.0757** (-2.35)	-4.3060*** (-4.02)	-3.5392*** (-3.37)	-2.5787*** (-2.60)
XDIV*DVG		-0.6567 (-1.07)	0.4222 (0.32)	-0.6580 (-0.91)	0.9757 (0.60)			
DVG			-2.0962 (-0.54)		-4.5424 (-0.90)		-0.9969 (-0.54)	-1.8506 (-1.01)
LPOP				0.0608 (0.10)	0.2431 (0.42)	-0.2488 (-0.55)		0.1553 (0.31)
Constant	33.2026*** (13.41)	32.3597*** (13.02)	33.1562*** (12.00)	29.8248** (2.33)	27.8225** (2.49)	37.9700*** (4.04)	32.4844*** (13.01)	27.7382*** (2.80)
Observations	959	959	959	959	959	959	959	959
Number of Countries	50	50	50	50	50	50	50	50
No. of instruments	79.0000	79.0000	79.0000	79.0000	79.0000	41.0000	41.0000	41.0000
AR1 p-value	0.0928	0.0925	0.0913	0.0911	0.0888	0.0937	0.0918	0.0897
AR2 p-value	0.5016	0.4994	0.5009	0.4977	0.4972	0.5029	0.5003	0.4968
Hansen p-value	0.9952	0.9970	0.9939	0.9952	0.9936	0.3938	0.3430	0.3312

Notes: Robust z-statistics in parentheses. XDIV is the export diversification index, which decreases with export diversification, so that a positive coefficient indicates a negative effect of export diversification. LPOP is the log of population. Definitions of variables and their data sources are provided in appendices B and C. *Significantly different from zero at the 10 percent level; **Significantly different from zero at the 5 percent level; ***Significant different from zero at the 1 percent level.

Table 10**Two-Step SYS-GMM Panel Regressions: Export Diversification and Vulnerable Employment, Developing (DVG) and Advanced Countries, 1991-2010**

	(V.1)	(V.2)	(V.3)	(V.4)	(V.5)	(V.6)	(V.7)	(V.8)
Variables	VEMP	VEMP	VEMP	VEMP	VEMP	VEMP	VEMP	VEMP
XDIV	15.9742*** (5.69)	-14.4520** (-2.11)	-3.3277 (-1.26)	-4.6072 (-0.94)	-0.8689 (-0.46)	20.7041*** (5.59)	-5.5902* (-1.73)	0.5619 (0.33)
XDIV*DVG		13.7098*** (3.98)	-3.7781 (-0.58)	10.2836*** (5.56)	1.0938 (0.35)			
DVG			40.2861** (2.36)		22.8594** (2.47)		29.9763*** (6.20)	25.9659*** (8.94)
LPOP				2.8506* (1.71)	2.5385 (1.64)	4.1484* (1.81)		2.4680 (1.63)
Constant	-14.1396** (-2.31)	38.4468*** (3.34)	17.4261*** (3.30)	-28.0667 (-0.84)	-30.5043 (-1.10)	-94.1795** (-2.26)	21.3791*** (3.45)	-32.4179 (-1.23)
Observations	410	410	410	410	410	410	410	410
Number of Countries	38	38	38	38	38	38	38	38
No. of instruments	23.0000	43.0000	43.0000	43.0000	43.0000	23.0000	38.0000	23.0000
AR1 p-value	0.5978	0.4333	0.6626	0.3374	0.3823	0.8353	0.5810	0.3733
AR2 p-value	0.9222	0.8663	0.9570	0.7085	0.7090	0.9813	0.9183	0.6948
Hansen p-value	0.3862	0.6631	0.7606	0.5948	0.5589	0.6435	0.2844	0.2349

Notes: Robust z-statistics in parentheses. XDIV is the export diversification index, which decreases with export diversification, so that a positive coefficient indicates a negative effect of export diversification. LPOP is the log of population. Definitions of variables and their data sources are provided in appendices B and C. *Significantly different from zero at the 10 percent level;

Significantly different from zero at the 5 percent level; *Significant different from zero at the 1 percent level.

Further, the present results very much corroborate those based on the cross-country regressions. In table 7, for instance, the export diversification index (export diversification) negatively (positively) affects the employment ratio, EMP, in developing countries, though the impact is lower for African countries (see particularly models E.2 and E.3). This was precisely the finding for the cross-country estimation as well.

Table 8 reports the results for labor force participation (LFP), which is the proportion of the population engaged in economic activities. The results seem rather weak, especially given that the assumption of the second-order autocorrelation is not met in many of the models. However, the results suggest generally that export diversification increases LFP for developing countries, but the effect is lower for African countries (see particularly model L.3, which are relatively fully specified models with the assumptions of over-identifying and absence of second-order autocorrelation satisfied). These results, then, corroborate those from the cross-country regressions.

The results for industrial employment, IEMP, are presented in table 9. According to these results, export diversification increases IEMP in developing and advanced countries generally, with little differential impact between these two groups of countries. This finding was what emerged from our cross-country estimation. Presented in table 10 are the SYS-GMM results for vulnerable employment (VEMP), the share of employment that is considered vulnerable. Though mixed, the results generally show that this type of employment decreases with export diversification, as it increases with the export diversification index. This finding is particularly discernible from models V.1, V.4 and V.6. Again, the present results are consistent with those reported earlier from the cross-country estimation.

5. Export Diversification: Determinants and Initiatives

The empirical analyses presented in the previous section suggests that export diversification contributes to employment creation in Africa. It is therefore important and necessary to understand what the determinants are. Against this backdrop, this section reviews some recent literature on the determinants of export diversification. It also discusses selected instruments (and initiatives) that have been used at the country level to promote trade and diversify exports.

5.1 Determinants of Export Diversification

If export diversification is indeed a desirable growth-enhancing strategy, with positive implications for employment, as observed above, then we must understand its determinants. Elhiraika and Mbate (2014) attempted to empirically explore the long-run determinants of export diversification, employing cross-country regression for 53 African countries over 1995–2011. The finding reveals that human capital, infrastructure, per capita income, public investment, and institutional framework are significant long-run determinants of export diversification. For example, while public investment promotes export diversification through provision of basic and business infrastructure, increased per capita income further boosts effective demand for a variety of goods and services.⁵

Using a large dataset for 79 countries covering the period 1962–2000, Agosin, Alvarez and Bravo-Ortega (2012) analyzed the main determinants of export diversification, using three indicators of export concentration. First, they found across all specifications and indicators robust evidence that trade openness stimulates higher specialization. Second, financial development was found not to be an important determinant of exports diversification. Third, a negative effect of real exchange rate volatility on export diversification was established for some of the results but with no significant effects of exchange rate overvaluation. Fourth, human capital accumulation was observed to contribute positively to exports diversification. Lastly, based on the examination of the effects of terms of trade shocks on export diversification, it was established that improvements in the terms of trade tended to concentrate exports. However, this effect varied across countries and was lower for countries with higher levels of human capital. The policy implication of this last finding is that countries that have higher education endowments would be better placed to translate terms of trade improvements into enhancing export diversification.

⁵ Similarly, Osakwe (2015) finds that “aid, quality of infrastructure, and resource endowments are important determinants” of export diversification.

5.2 Export Diversification Initiatives at the Country Level

Most African countries and LDCs have adopted policies aimed at promoting exports diversification with a view to achieving national development goals, notably employment creation. These initiatives include industrial strategies, macroeconomic policy measures and fiscal compensation arrangements, some of which are discussed below.

Export Subsidies

Export subsidies have been used by governments of African countries and LDCs to promote exports and foster diversification. This scheme often involves direct monetary payments, delivery of inexpensive loans, provision of tax relief and other related support to exporters in the domestic economy. The purpose of the intervention is to grant the domestic industry a strategic advantage in international markets by enhancing their export competitiveness. While export subsidies could play a positive role in inducing export diversification, it is important to stress that it imposes a heavy burden on government budgets and may be difficult to sustain, particularly in countries with narrow sources of revenue, a low tax base, and weak resource mobilization capacities. African countries and LDCs have relied on tax revenues from trade to bolster the government's budget and, in particular, to support import-substituting firms historically. Unfortunately, trade taxes have been found to be growth-inhibiting. For example, "Rodrik (1998) reported a consistently negative effect of trade taxes, in particular export taxes, on economic growth as well as on export growth in Sub-Saharan Africa" (Fosu, 2002b, p. 295).

Developed countries are more prone to using subsidies to promote exports, mostly in the agriculture sector. For example, Europe maintains a system of agricultural subsidies, the Common Agricultural Policy (CAP). Similarly, the U.S. provides subsidies and support to cotton farmers. The WTO prohibits the use of subsidies that are directly linked to exports volumes, and at the WTO's 10th Ministerial Conference, member countries pledged to abolish the use of all forms of export subsidies for agricultural products. Member States agreed that developed countries should immediately eliminate their remaining scheduled export subsidy entitlements, whereas developing country Members should eliminate their export subsidy entitlements by the end of 2018 (WTO Nairobi Ministerial Declaration 2015). Developing country Members shall continue to benefit from the provisions of Article 9.4 of the Agreement on Agriculture until the end of 2023, and LDCs and net food-importing developing countries until the end of 2030. Compliance with this agreement is yet to be realized. The use of export subsidies by developed countries means that exports by African countries and LDCs face a competitive disadvantage in

global markets. It is also detrimental to promotion of trade and employment in African countries and LDCs, since many of them have a comparative advantage in primary commodities and resource-based manufacturing.

Industrial policy

Industrial policy has played an important role in the economic development of advanced and emerging economies. The main objective of industrial policies is to enhance the competitiveness and capabilities of domestic firms and to diversify the structure of production (Greenwald and Stiglitz, 2014). A number of African countries and LDCs have sought to promote export diversification through industrial policy. Such efforts have been aimed at upgrading and promoting the development of higher-productivity sectors, including manufacturing and high-end services. A good example of the use of industrial policy to promote industrialization in Africa is the leather industry in Ethiopia. The industry was identified as a priority sector in Ethiopia's 2002 Industrial Development Strategy, a focus which was reaffirmed in subsequent policy documents (Mbate, 2016). Government interventions have led to improvements across several steps of the value chain in the leather industry and the country now has a thriving footwear cluster that has endured competition from imports. Despite the progress that has been made, however, the scale of production and exports is still relatively small and earnings modest. Furthermore, in spite of international interest and considerable government attention and effort, Ethiopia's leather sector has not yet realized its full potential. There are various avenues for African countries to promote export diversification through focused policy interventions (Amurgo-Pacheco and Pierola 2008). One possible area of focus would be to promote geographical diversification and also upgrading of existing commodities exports. These could be achieved through focused policy on standards and technology upgrading that would allow the promotion of value addition and entry into new markets.

A key lesson learned from successful industrial policies is that Governments should act as facilitators and enablers. In this context, African countries should aim at raising their levels of investment, improving governance, eliminating conflicts, adopting prudent fiscal policies and ensuring macroeconomic stability, in addition to the pursuance of industrial and trade policies which foster economic diversification (UNECA, 2016). Furthermore, realizing export diversification and employment creation objectives, requires making macroeconomic policies consistent with the goal of structural transformation (Osakwe, 2015). For example, interest rates should not be so high as to inhibit investment in strategic sectors of the economy. There is also the need for better coordination between the public and private sectors to promote national ownership and make policy implementation more inclusive than in the past. Governments should also improve the

policy environment for businesses, including small and medium enterprises (SMEs) to enhance prospects for achieving export diversification and other national development goals. Some measures governments could take to foster a better industrial policy environment for business include enhancing access to finance, improving infrastructure, facilitating trade, and investing in human capital. The latter is relevant since a shortage of skilled workers can be a major constraint - particularly for the expansion of manufacturing and service sectors, and the potential emergence of more sophisticated sectors.

Export processing zone (EPZ) schemes

A few African countries have attempted to promote exports diversification through export processing schemes (Farole 2011). The common objectives of these schemes are to produce more price-competitive non-traditional exportable goods, especially manufactures, through a waiver of duties and or taxes and other similar export-friendly incentives and regulations in export processing zones. In Africa, Liberia, Senegal and Mauritius pioneered use of EPZ schemes in the 1970s and early 1980s (Zeng 2015). Other African countries launched EPZs later in the 1990s and 2000s. The EPZs have focused on the comparative advantages of the countries, mostly in apparel, textile and agro-processing industries.

Mauritius is often showcased as a success story, thriving in promoting economic and exports diversification, generating employment, knowledge and technology transfer, attracting large foreign investment, and curtailing capital flight (Subramanian, 2013). More recently, Ethiopia recorded impressive success in the use of EPZs to promote export diversification, mostly driven by the Investment Proclamation in 2012. The Bole Lemi Industrial Zone was opened in 2013 and by 2015, twelve international shoe, textile and garment-producing companies had invested in this zone. Five of these have started production with around 3,000 jobs created (Gakunu et al. 2015). EPZs have also been reasonably successful in Rwanda, Kenya, and South Africa. Success hinges on the introduction of comprehensive national laws and regulations, on the establishment and management of EPZs, as well as on effective institutional strengthening. Apart from these few success stories, the use of EPZs to foster exports diversification has only recorded very limited success in Africa and other LDCs. Limited national capacity reflected in weak planning and poor management appear to be the main factors behind the limited success of EPZs in Africa and LDCs (Auty 2011). Nigeria is often cited as an example of failure in the use of EPZs to foster exports diversification. While this scheme was introduced as far back as 1991, limited results have been achieved. Some of the challenges constraining success include: weak institutional and regulatory oversight, undue institutional rivalries among implementing agencies, and bureaucracy (Farole 2011 and UNDP and IPRCC 2015).

Tax incentives

Many African countries and LDCs have established various tax incentives schemes, such as duty drawback or suspension, to promote export diversification (KPMG 2016). Under these arrangements, exporters in specified priority sectors are allowed to import raw materials free of import duty or other related indirect taxes and charges. Others are given a refund of duties paid on imported inputs that are expected to be used to produce exports. These could be import taxes, levies, fees or value-added taxes. It could also be in the form of tax relief on income. In this instance, the interest income of financial institutions accruing from export-related lending is exempted from tax. The purpose of the exemption is to encourage lending to exporters with a view to diversifying exports.

Export development and expansion fund

Credit instruments are regarded as one of the most important mechanisms for promoting exports and exports diversification, due to the crucial role of credit in providing capital for business operations as well as business facilitation in foreign markets (see Fox and Oviedo, 2013, p. 630). In developing countries, few (large) firms are able to access such loans from commercial lenders. However, in countries such as LDCs, the economic landscape is dominated by small and medium enterprises (SMEs) that are considered very risky borrowers. Thus, the SMEs need financial support in the form of subsidized loans and grants. To provide this support, LDCs governments would typically set up export development and expansion grants to support firms engaged in exports.

The grants are usually in the form of a special fund provided as financial assistance to exporting companies to cover part of their initial export promotion activities (Rankin 2013). The activities covered through this fund may include consultancies, export market research studies, advertising and publicity campaigns, and product design. The expansion component of the fund provides cash inducements to those exporters that attained a specified minimum annual export turnover. The objective is to enable exporters to achieve increased export volume and export product diversification. Usually, the exports are expected to be in the non-traditional sectors of the economy, such as semi-processed, semi-manufactured and manufactured goods.

Export credit guarantee and insurance scheme

Through this type of support, loans granted by commercial banks to exporters for producing goods and services for exports are guaranteed and insured (FAO 2013). Foreign importers of the locally produced goods are given credit facility as well as insurance cover for the local exporters, should the foreign importers of the locally produced commodities fail to pay for the goods purchased. This scheme thus minimizes for exporters' risks associated with exporting with the assurance of guaranteed sales and income from exports.

6. Export Diversification and Employment: Opportunities and Challenges

There are several opportunities and challenges facing African countries and LDCs in promoting export diversification. Some of the challenges include poor infrastructure, limited access to finance, policy incoherence, high cost of doing business and weak export competitiveness. The opportunities include continental initiatives on regional integration, global market access initiatives, an increase in trade-related assistance, and the emergence of new sectors and actors. The discussions in the following subsections focus on these opportunities and challenges.

6.1 Opportunities

Innovative continental initiatives and intra-regional integration

Given the limited financial resources and the small size of domestic markets in African countries and LDCs, regional integration will play a crucial role in fostering diversification and employment creation. For example, it can contribute to diversification efforts by permitting countries to address infrastructure bottlenecks through joint provision of cross-border infrastructure. It can also reduce regulatory burdens facing domestic entrepreneurs through harmonization of policies at the regional and continental levels. Furthermore, regional integration can promote diversification because the composition of intra-African trade is skewed towards manufacturing in contrast with Africa's extra-regional trade which is skewed toward primary products.

The African continent is a pioneer in regional economic integration with the establishment of the South African Customs Union (SACU) in 1910 and the founding of the East African Community (EAC) in 1967. The first generation of emerging African leaders, immediately after political independence, put considerable efforts into regional economic integration and this has resulted in the proliferation of regional trade initiatives on the continent. About 51 per cent of the 53 African countries belong to at least two regional economic communities (RECs), 34 percent belong to three RECs, 13 percent maintain membership in one REC and one country belongs to four RECs (Ogunleye 2010). Only seven countries have maintained membership in just one REC.

Despite the efforts of African leaders to promote integration, the continent has not fully exploited the potential of regional trade for development. African exports are

characterized by an overwhelming focus on exporting to the North and relatively low levels of intra-regional trade persist (only around 14%). This low level of intra-regional trade can be attributed to factors such as infrastructure deficits, non-tariff barriers and other regulatory burdens, weaknesses in the services sector, high trading costs, and very limited vertical specialization along regional value chains. Intra-regional trade would allow African countries to recognize the complementarities of their economies, specialize in different tasks along production value chains, harness synergies, and benefit from economies of scale, as well as enhance food security, energy security and poverty alleviation. It would also prompt other benefits, such as income and employment generation, cost-effective inputs and services within the region, and enhanced competitiveness due to higher competition within the region, made possible through deeper regional market integration. This can in turn enhance progress in African countries towards meeting the SDGs.

To address the challenges of low levels of intra-regional trade, in tandem with the structural challenges faced by the region, African countries have undertaken bold innovative integration policy initiatives, which have the potential to foster diversification and employment. One of these is the unveiling of the African Union's Agenda 2063 in 2013 whose vision is to build an "integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the global arena." Another initiative is the New Partnership for Africa's Development (NEPAD), which is a comprehensive integrated strategic framework for African socioeconomic development (UNCTAD 2012). NEPAD undertakes a comprehensive review of the development challenges facing Africa, articulates a vision of development for the continent, and then designs policies, programmes and projects that could promote the achievement of the vision for social, economic and political progress (Funke and Nsouli 2003). Prominent in this regard is the development strategy for promoting sustained economic growth through policies that include exports diversification and employment generation. The partnership has a three-pronged focus: promoting accelerated growth and sustainable development, eradicating widespread and severe poverty, and halting the marginalization of Africa in the globalization process. Proper implementation of the NEPAD initiative bodes well for enhanced international competitiveness, diversification of productive economic activities and of exports, and increased employment, *inter alia*.

At the 18th Ordinary Session of the African Union held in Addis Ababa, Ethiopia, in 2012, African leaders recognizing that the promotion of intra-African trade is a fundamental factor for sustainable economic development, employment generation and effective integration of Africa into the global economy, adopted a "Decision on boosting intra-African trade and fast tracking the Continental Free Trade Area". African

Heads of State endorsed the Framework, Road Map and Architecture for Fast Tracking the establishment of the Continental Free Trade Area (CFTA) and the Action Plan for Boosting Intra-African Trade. The accelerated formation of the CFTA is expected to stimulate and boost intra-African trade, strengthen African integration and contribute to sustained economic growth and development.

The formation of the CFTA involves, *inter alia*, the coordination and harmonization of free trade agreements within existing RECs. It also requires that Rules of Origin and trade regimes are harmonized at the REC and tripartite levels, evolving into a continental set of rules of origin and trade regimes. Given that, in addition to intra-African free trade, African countries are also involved in negotiation of free trade agreements with developed countries (such as through the EPAs with the EU), the implications of such negotiations on intra-African free trade and related rules of origin need to be taken into account in designing development policies and strategies. In addition to rules of origin, the persistence of other behind the border measures (such as administrative barriers and sanitary and phytosanitary measures) increases trade costs and affect the potential development impacts of regional integration (Santos-Paulino, 2017).

Global market access initiatives

Enhanced market access for exports of African countries and LDCs is also crucial to effectively fostering export diversification in these countries. Over the past few decades, several initiatives have been introduced to facilitate market access for developing countries and LDCs, including Non-Agriculture Market Access (NAMA), and other non-reciprocal preference-granting initiatives such as the European Union's Everything But Arms (EBA), which grants tariff-free and quota-free status to all imports — except armaments — from all LDCs to the European Union; and the African Growth and Opportunity Act (AGOA), under which imports of certain goods — such as textiles and clothing — to the United States from eligible African countries are duty-free and quota-free.

Some of the existing global market-access initiatives offer opportunities for economic diversification and employment in Africa and other LDCs (Hammouda et al 2006). The Everything but Arms (EBA) initiative came into force in 2001 with transitional arrangements for sugar and rice until 2009 and banana until 2006.⁶ While this initiative is intended to promote exports from LDCs into Europe, the associated Rules of Origin tend to constrain its success (Brenton, 2006).

⁶ See Council Regulation (EC) No 980/2005 of 27 June 2005, Applying a scheme of generalized tariff preferences, available at http://trade.ec.europa.eu/doclib/docs/2005/june/tradoc_123910.pdf

AGOA is aimed at meaningfully enhancing market access to the United States for qualifying exports from Sub-Saharan African countries. The law was enacted in 2000 and renewed up to 2025. The conditions for qualification and continued eligibility include sustained improvement in the rule of law, human rights, and respect for core labour standards. Several African countries have utilized this initiative to increase and diversify their exports to the US market, although the utilisation rates remain generally low. Exports of African countries through AGOA have been so far highly concentrated and dominated by petroleum products. However, the petroleum share has fallen from as high as 86 percent in 2012 to 56 percent in 2016, where much of the decrease can be attributed to the falling value of US imports from Africa (Table 11). Furthermore, only few African countries seem to have derived significant benefits from the initiative and most of these are either minerals or oil exporting countries (Williams 2015). Nigeria, South Africa, Angola, Chad, Gabon, and Republic of Congo represent the top AGOA beneficiary countries. Nonetheless, AGOA continues to offer an important opportunity for SSA countries to improve their levels of export diversification.

As in the case of reciprocal schemes, preferential access is conditional on meeting originating status requirements for goods that are embodied in system-wide Rules of Origin and, especially, in product-specific rules of origin for sectors in which a fair degree of processing takes place (Hoekman, 2018). These regulations are multiple and particularly complex for textiles and apparel, a key sector for developing countries where low labor costs give them a comparative advantage. A growing empirical literature concludes that the requirements serve as protectionist devices that end up impeding market access for the intended beneficiaries (e.g. De Melo and Portugal, 2008). Strict Rules of Origin have often been justified as a means to support more processing in developing countries by encouraging integrated production within a country, or within groups of countries through various cumulation schemes, as in the case of textiles

Table 11

U.S. imports from Sub-Saharan Africa under the AGOA

	2012	2013	2014	2015	2016
Value (billion US\$)	34.9	26.8	14.2	9.3	10.6
Change in Total Imports (%)	-35	-23	-47	-35	-13.8
Change in Petroleum Products Imports (%)	-38	-27	-55	-48	-48
Share of Petroleum Products in AGOA Imports (%)	86	82	69	55.6	55.6

Source: US Department of Commerce, Bureau of Census database, accessed June 7, 2017.

and apparels. Nevertheless, at least in the case of textiles and apparels, the double-transformation requirement has discouraged developing exports in the low-income countries of Sub-Saharan Africa, at the intensive and the extensive margins.

Overall, there is the need to relax the stringency of Rules of Origin requirements associated with preferential schemes in order to enhance their impact and value to beneficiary countries. Due to such technical barriers, in addition to prevailing structural constraints, some of the global initiatives such as AGOA have recorded very limited success in helping beneficiaries diversify their exports, and have made it difficult for transformation to take place. At the global level, Africa has been engaging in multilateral trade negotiations at the WTO, as well as with different trading partners under the EPA process with the EU, and the Generalized System of Trade Preferences with other developing countries. Such efforts at the international level to enhance market access, boost African exports and better integrate into the global trading system should be strengthened and remain a priority at the national level.

Finally, reducing trade costs is vital for export diversification and the achievement of other development goals (Hoekman, 2015). In this context, the Trade Facilitation Agreement (TFA) under the WTO provides opportunities to increase African countries' and LDCs' export shares and to diversify their exports. The implementation of the TFA could reduce fixed costs of trade, since it allows firms to export products they had previously sold only in the domestic market, and it permits firms to enter markets that were too costly to enter before. The TFA can also promote entry of SMEs into export markets. The agreement is also expected to increase inward FDI: Foreign investors are likely to see trade facilitation as an indicator that a country's investment climate is improving (WTO, 2017).⁷

Trade related assistance

The international community has established several trade-related assistance programmes in recognition of the fact that developing countries need technical assistance in order to build productive capacities, transform their economies, and better exploit the potential of trade for development. For example, the Enhanced Integrated Framework (EIF) supports LDCs to be more active players in the global trading system by helping them to mainstream trade into national development strategies, tackle supply-side constraints to trade, and coordinate delivery of trade-related technical assistance.

⁷ Note that the implementation of the TFA is linked to a country's capacity. Out of a total number of 36 WTO members who are LDCs, 17 have bound their commitments on the three different categories of the TFA: A) those implemented immediately upon entry into force; B) Those implemented after a transition period; and C) those requiring implementation capacity, assistance.

The EIF is an extension of the Integrated Framework programme established in October 1997 to provide trade-related technical assistance to LDCs. There are also global trade-related assistance programmes that are not exclusively for LDCs, such as the Aid for trade (AfT) initiative which was launched at the WTO Ministerial Conference in Hong Kong in December 2005. Its aim is to build trade capacities and address infrastructure constraints to trade in developing countries. The assistance provided under the aid for trade initiative covers the following areas: technical assistance on trade policy, negotiations and implementation of agreements; infrastructure development; building productive capacities; and reducing costs of adjustment to trade reforms. Trade and trade-related technical assistance are also recognised as instruments to achieve some of the SDGs, particularly by correcting distortions in world agricultural markets, improving Aid for Trade support for developing countries, regional and trans-border infrastructure investments, and increasing the integration of small-scale enterprises into GVCs.

Emergence of new and highly promising sectors

African countries have recently witnessed the emergence of new sectors with high potential for export diversification and employment generation. One of such sectors is the entertainment industry, mainly movies, music and comedy. There is Nollywood in Nigeria, Ghallywood in Ghana, and similar industries in other parts of Africa like Cameroon, South Africa and Kenya. The development of this sector has supported economic diversification and the generation of millions of jobs, and still has the potential for significant growth. For Nigeria, according to PWC (2015), the filmed entertainment industry grew from US\$139 million in 2010 to US\$183 million by the end of 2014, and is projected to reach US\$295 million by 2019 at a compound annual growth rate of 10 percent. The same source shows that in South Africa, the value of the industry increased from about 2.3 billion rand in 2010 to almost 3 billion rand by the end of 2014, with an estimated rise to 3.9 billion rand by the end of 2019, representing a compound annual growth rate of 5.6 percent over 2014 – 2019. Already, countries like South Africa, Ghana, Nigeria, and Kenya have started exporting their music brands and comedy across Africa. There is a large opportunity to deepen the market and expand the scope beyond Africa to other countries in America, Europe and Asia, especially in the light of the considerable African diaspora. Globalization, localization and growing youth population with strong appetite for innovation are key advantages that should be exploited to diversify exports in this direction.

UNCTAD (2015) shows that in recent years, the share of services in Africa's real output has increased — rising from 45% in 2004 to near 50% in 2012, reaching over 70% in some countries. Consequently, the sector contributes, on average, to nearly half

of the continent's output. The fastest growing services subsectors were transport, storage and communications, which are vital for Africa's economic development. Telecommunications have been an important driver of Africa's economic growth in the last decade. The market is increasingly competitive, and world-class local enterprises are emerging in voice and data services. Telecom revenues have increased, and the number of subscribers is also on the rise. To meet the increased demand, investment in telecommunication infrastructure —about \$15 billion a year—has also grown significantly.

Despite these positive trends or developments, Africa has experienced de-industrialization over the past few decades, as evidenced by the declining share of manufacturing in total output in most countries. For example, during the period 2004 to 2012, as UNCTAD's study shows, out of the 45 African countries where the share of services in output increased, 30 experienced a contraction in manufacturing contribution to real output. This suggests that the growth of the services sector, was not linked to manufacturing activities and complementarities between the two sectors are however to be fully developed. Importantly, the services sector accounts for 32.4 per cent of total employment, and in some countries, approximately two-thirds of the workforce is engaged in services. If the informal sector were considered, the contribution of the sector would be even greater. Furthermore, as Africa's middle class continues to grow, and given current population dividend and urbanization trends, as Africa's population is forecast to double by 2030, this sector is expected to expand. Yet, in terms of global trade in services, Africa remains a marginal player, reflecting the non-tradeable nature of the services sector, as well as other structural challenges.

Currently, services provision in most African countries remains suboptimal and at high cost, especially energy and transport. Various regulatory and policy shortcomings prevail, which explain the low development of the sector in Africa and the failure of the continent to fully capitalize the potential of the services sector. Therefore, for Africa to better harness this potential, regulation of and policies for services, particularly infrastructure services, need to better target existing market failures including issues of accessibility, quality, affordability and competition.

Increased economic cooperation and integration with emerging partners

The new dynamism of the South is effectively altering the nature of economic cooperation and private capital flows amongst developing countries. Increasingly Southern countries as large as China and as small as Thailand are offering development assistance, debt cancellation, and investment opportunities to other developing countries particularly in Africa. Fast-growing developing countries have also emerged as an important source of

private and public investments, and southern multinational corporations have become providers of capital and technology. These flows are often less defined by contingency and more by market forces than existing North-South flows, and complement efforts to contribute to the achievement of the internationally agreed development targets, above all the SDGs.

Africa now conducts about half its trade with developing countries, mostly outside the region. This geographic shift has brought about new forms of economic relationships and opportunities. China has become the largest player in the continent through investment (particularly in infrastructure), trade and other forms of development financing. These new partnerships with emerging economies is helping African countries address infrastructure challenges with positive implications for export diversification. The efforts of China in championing the Regional Comprehensive Economic Partnership (RCEP) agreement in Africa, and the “One Belt, One Road” (OBOR) initiative, with its emphasis on the development of physical infrastructure connecting more than 60 countries across Asia, Africa, and Europe also provide opportunities for increase trade and diversification. More than 35 African countries, including LDCs, have signed infrastructure finance deals with China, where the biggest recipients (around 70%) are Nigeria, Angola, Sudan, and Ethiopia. Investment in infrastructure projects such as energy and hydropower, and water is channeled primarily through the China Export-Import (Ex-Im) Bank on terms that are marginally concessional. A large share has gone to countries that are not beneficiaries of recent debt relief initiatives. In some cases, infrastructure finance is packaged with natural resource development, making use of a mechanism known as the “Angola mode.” Chinese finance is on a scale large enough to make a material contribution toward meeting Africa’s vast infrastructure needs (World Bank, 2008). Intrinsically, it offers an important development opportunity for the region. India, Brazil, and Middle East economies are also forging new broad-based investment partnerships in Africa. Maximizing the benefits from these partnerships would require the development by African countries of a strategic approach to engagement with emerging partners. It would also require being proactive in the new partnerships to ensure that their development needs and challenges are addressed.

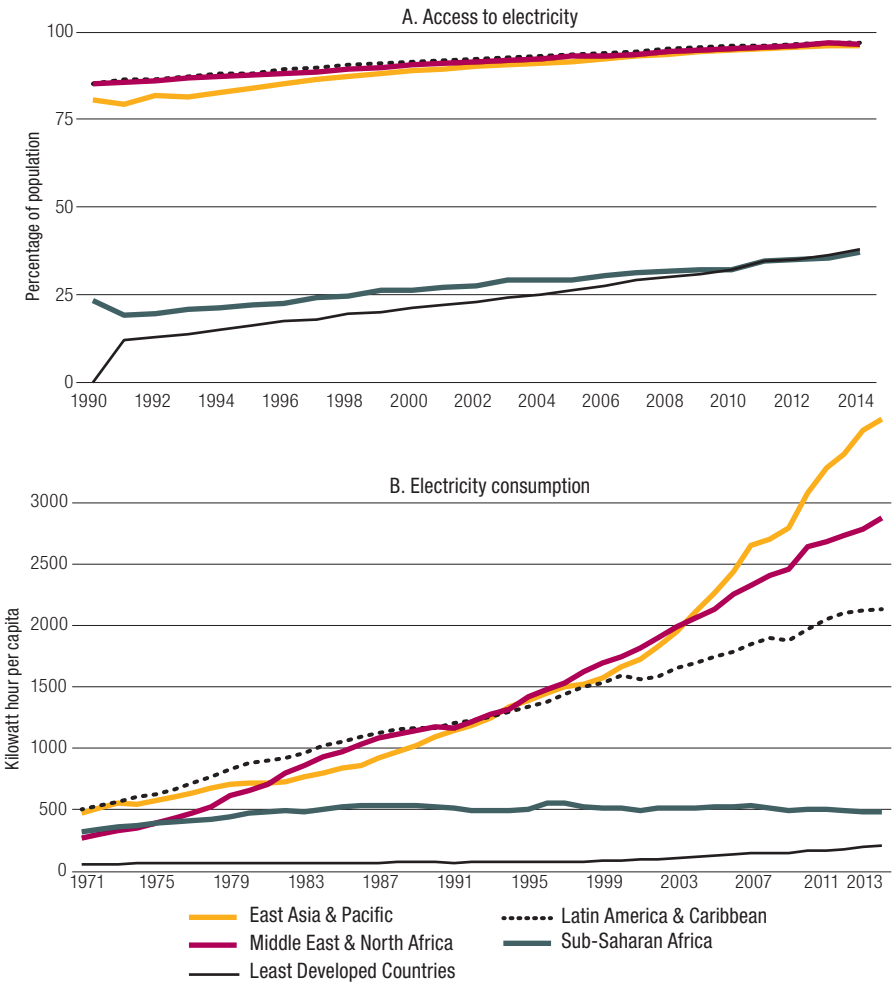
6.2 Challenges

Harnessing the opportunities for export diversification discussed in the previous section demands that African countries and LDCs effectively address the binding constraints to export diversification and employment creation. These constraints and challenges are discussed below:

Poor infrastructure

Infrastructure constraint is one of the binding constraints on export diversification in African countries and LDCs. Indeed, Africa as a region has the poorest infrastructure

Chart 7
Electricity access and consumption



Source: World Development Indicators database, accessed June 12, 2017.

in the developing world. Consider electricity, for example, where Africa has its highest infrastructure deficit (Chart 7). In 1991, the percentage of the population with access to electricity was 19 percent and 12 percent in SSA and LDCs, respectively. These figures contrast with over 80 percent in the rest of the developing world during the same period. Although there were improvements in SSA and LDCs, to 37 percent and 38 percent, respectively, by 2014, the rest of the developing world exhibited levels of nearly 100 percent.

Africa also exhibits similar gaps in transportation, ICT, and other critical infrastructure. The poor state of infrastructure in all forms — quantity and quality — tends to weaken firms' propensity to explore new sectors and commodities for the purpose of diversifying production and exports. The infrastructure constraint, by increasing the cost of doing business, has indeed discouraged the operation of SMEs and thus diversification and employment generation. Fox and Oviedo (2013), for instance, find that the difficulty of doing business, the most prominent being infrastructural obstacles, is a significant deterrent to employment growth in African manufacturing firms.

Lack of finance, especially for small and medium-sized exporters

Trade finance in Africa and LDCs remains a major challenge. A report conducted by the African Development Bank, based on a unique and primary survey of 276 commercial banks in 45 African countries on their trade finance activities in 2011 and 2012, revealed several of these challenges (Gajigo et al., 2014). First, this study established that only one-third of total African trade, ranging between US\$330 billion and US\$350 billion, is financed through the banking system. Second, the study further revealed that the high demand for trade finance remains largely unmet, estimated conservatively to be between US\$110 billion and US\$120 billion, suggesting that the market is significantly underserved.

The lack of finance is even more prominent for SMEs that are the main drivers of inclusive growth and job creation. Indeed, Fox and Oviedo (2013) find that the cost of, or the lack of access to, finance was considered by SMEs as a major obstacle to business operation and, therefore, deterrent to job creation. Gajigo et al. (2014) uncovers several factors that limit trade finance in Africa, especially for SMEs. These include, first, limited foreign exchange liquidity, especially of the dollar, since most trade activities are undertaken in this currency. Second, is limited trade facilitation programs, including the lack of access to information on export financing opportunities and options. Third, and perhaps most importantly, SMEs are considered highly risky borrowers, given their limited technical capacity, lean financial base and high default and mortality rates (see Chauffour and Malouche 2011 and AfDB 2017).

Governments' export policy inconsistencies and incompleteness

Many African countries are marked by export policy inconsistencies, as these countries tend to experiment with various exports promotion policies, adopting and reversing them regularly. These include: import substitution industrialization and different variants of special economic zones that include industrial parks, technology parks, and export processing zones.

In Nigeria, for example, establishment of Commodity Boards shortly after political independence helped in promoting export diversification in a wide array of agricultural commodities. However, as part of the Structural Adjustment Programme (SAP), these boards were closed down in 1986 in order to allow the private sector to assume the role of marketing the commodities both locally and globally. The Boards were also aimed at minimizing real and potential distortions associated with the world prices of these commodities. However, the inability to match the policy with consistent and complementary policies that include development of storage facilities, transport infrastructure, exchange rates policy, quality control, and other related policies led to failure.

Complicated export systems

Rules and regulations of LDCs regarding exports are generally complicated and highly bureaucratic. Usually, this results from varying demands of the many exporting countries they are targeting. Government officials spend valuable time trying to understand and be able to interpret the laws and regulations and changes that may arise. Exporters also require substantial time to understand the processes and procedures involved in exports. Many African countries have several government agencies and departments as well as regulatory agencies involved in exporting activities. In many instances, there are conflicts, overlaps and confusion in the application and implementation of the regulations, thus discouraging exporting activities.

High cost of doing business

Africa and other LDCs are often cited as the worst places to do business (see World Bank's Doing Business annual reports). The high level of corruption prevalent in many African countries and LDCs is one of the reasons for the high cost of doing business in these countries. But there are also challenges imposed by poor infrastructure and high regulatory burdens. Many of the challenges discussed here reinforce themselves to significantly raise the cost of doing business, as shown by the World Bank's Doing Business ranking (World Bank 2016). African countries are on the bottom rung of the ranking measured on 11 areas of business regulation: starting a business, dealing with

construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency, and some aspects of the labour laws.

As in most years in the past, Mauritius, Rwanda, and Botswana rank in the top three of the index in the region. Apart from these few success cases, most African countries are at the bottom, with an average ranking of 143. Significant progress is required in areas where most African countries rank lowest. These are: getting electricity, trading across borders, and paying taxes. In the area of cross-border trade, for instance, it takes an African exporter an average of 108 hours and US\$542 to complete border compliance procedures. In contrast, the global average for this process is 64 hours and US\$389. And, as presented above, the high cost of doing business tends to retard employment generation in African manufacturing firms (Fox and Oviedo, 2013).

Limited market access

Access of Africa and other LDCs to global markets, especially those of developed markets like the EU and North America, is constrained by several regulations that limit entry. The market access challenges are caused by regulations that take the forms of phyto-sanitary, ecological and environmental requirements. These constraints as well as production capacity limit the region's ability to take advantage of market access opportunities to diversify exports into manufacturing through initiatives that include the AGOA, EBA, EU-ACP market access opportunities, EPA and other similar market initiatives and negotiations. Rules of origin constitute an additional factor that limits access of African countries to foreign markets, as in the case of the EBA and AGOA.

Weak export competitiveness

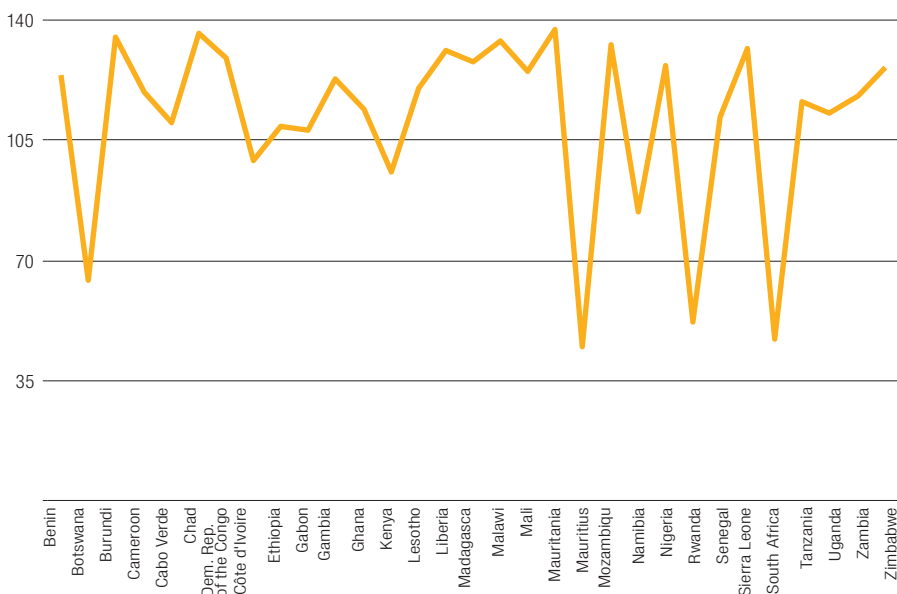
Exports of African countries and LDCs are characterized by their inability to compete in international markets. Export competitiveness exists when a country or region is able to supply a commodity of superior quality at the same cost, or the same quality product at a lower cost, compared to international competitors. This depends largely on the competitiveness of the domestic enterprises and firms producing the commodities. The combined effect of poor quantity and quality of infrastructure, high cost of technology adoption and absorption, weak human capacity, low labour productivity, and poor regulatory oversight induces high costs of doing business and weakens the region's export competitiveness.

Africa's poor global competitiveness is reflected in the ranking of the countries in the 2016-2017 World Economic Forum's Global Competitiveness Index (Chart 8). The top five best performers are Mauritius (45), South Africa (47), Rwanda (52), Botswana (64),

and Namibia (84). Most African countries dominate the bottom of the ladder out of the 138 countries ranked, except for few non-African countries like Yemen and Venezuela. The poor competitiveness of the region and of other LDCs is a manifestation of the weak performance on several indicators that include property and intellectual property rights protection, diversion of public funds, public trust in politicians, irregular payments and bribes, ethics and corruption, judicial independence, security, government efficiency, and transparency of government in policymaking.

Chart 8

Performance of African countries in the 2016-2017 Global Competitiveness Index



Source: World Economic Forum's Global Competitiveness Index, 2016–2017.

7. Export Diversification and Employment Strategies: Learning from Peers

There are a number of developing countries that have made significant progress on export diversification over the years and have reaped the benefits of its positive effect on employment. Some of these countries were either on the same socioeconomic development level with most African countries a few decades ago or on lower levels of economic progress compared to Africa. Today, they have made steady progress, overtaken African countries and continue to make significant progress. These countries offer insightful lessons for African countries and LDCs. A few of these examples are highlighted below.

7.1 Republic of Korea

Republic of Korea, also known as South Korea, had export structures similar to Africa's in the early 1960s. However, the country has experienced profound transformation of its export structure and base, with manufactures and other high value exports dominating its export basket as far back as the early 1980s (Samen 2010). In the 1960s, South Korea adopted an import-substituting industrialization strategy aimed at increasing labor-intensive light manufacturing industries, within the context of high protective barriers, as its economic policy thrust. Government took this bold step based on the realization that the private sector was weak, thus needing a complementary policy from the government (Moon 2016). The export diversification policy thrust was given impetus when the US informed the country of its decision to withdraw its financial aid for the country. Searching for alternative sources of foreign exchange inflows in order to alleviate the potential negative effects of US aid reversal on the welfare of the people, export promotion and diversification was considered and adopted as a possible option.

Exchange rate unification and devaluation was the first important policy action the country took (Lee 1997). Currency overvaluation that had characterized the economy over the years was corrected through devaluation, not just once but twice. This action corrected the associated excessive import that currency overvaluation had fueled over the years. The country used tax exemptions as an incentive to encourage production of a wide variety of commodities for exports. Inputs imported specifically for producing commodities intended for exports were completely exempted from import tariffs and excise duties (Kim 1991).

Exporters were also supported with finance through the preferential credit scheme adopted purposely for exporters (Westphal 1990). Exporters were granted automatic access to commercial loans at concessionary rates that are below the market rates. Cash subsidy and subsidy for the use of public utilities were also provided for exporters. Firms focusing on exports were given depreciation allowances for the purpose of reducing their tax obligations. Export-import links schemes were also provided to increase knowledge and awareness of exports opportunities through the Korea Trade Promotion Corporation (KOTRA) established in 1964. To ensure a steady supply of inputs for the established manufacturing firms, cotton plantations were developed specifically to feed the textile industry.

The country has reaped tremendous benefits from the approach it adopted for promoting export diversification, recording remarkable economic success by several measures (Whang 1987). For example, according to World Bank's World Development Indicators database, South Korea ranks consistently in the top ten exporting countries in the world for many years. Exports of goods and services, measured in 2010 constant terms, grew from US\$172 million in 1960 to US\$710 billion by the end of 2016. The country has successfully diversified its exports into light and heavy manufactures that include vehicles, electronics, telephones, machinery, computers, ships and boats. It has recorded brilliant economic growth that averaged 10 percent in the 1960s and 1970s. GDP at 2010 constant prices rose from mere US\$23.6 billion in 1960 to US\$1.3 trillion at the end of 2016 (see World Development Indicators database). It has also maintained very low unemployment rates that averaged 2.5 percent between 1991 and 2016. The country easily and successfully weathered the storm of the Asian financial crisis because it had developed strong capacity for rapid export response and adjustment (Park and Wyplosz 2008).

An explanation for such 'success' is provided by Lee (2013), who argues that "Korea's development success was attributable in great part to the government's role in strengthening the capabilities of firms." (Fosu, 2013a, p. 7), while improving the business environment generally in order to allow domestic firms to compete globally under external orientation.

7.2 Brazil

Beginning in the 1950s, Brazil focused its policy on achieving exports diversification. The rationale for this strategy lies in the view that Brazil was an emerging economy with commodity exports dominating the export basket at the time (Ferreira and Facchini

2005). But the commodities continually faced declining competitiveness, with the terms of trade for the country deteriorating based on the worsening commodity prices.

Financial instruments were the main tools used extensively by the country to promote export diversification. Credit and export credit insurance are the two key instruments that the country has widely employed in this respect. While the credit provides financial support for working capital and overseas market facilitation, the export credit insurance is aimed at covering possible buyers' defaults and unforeseen risks resulting from war, natural disaster, and related unforeseen catastrophes. This support helps exporters to manage their assets and associated risks (Cirera, Marin and Markwald 2012).

Advance payment under foreign exchange contract is another important financial support provided to encourage exporters. These are short-term financing facilities that cover a wide range of activities, including imports of raw materials for the production of commodities targeting foreign markets. The primary objective of this support is to promote export competitiveness, by reducing costs associated with working capital and other associated operational costs (Canuto, Cavallari and Reis 2013).

The National Bank for Economic and Social Development, popularly known as BNDES (Banco Nacional de Desenvolvimento Econômico e Social), has also been extensively used as an export-financing channel to promote export diversification in Brazil. Through a special export diversification-financing programme, called BNDES-Exim, BNDES has used a variety of financing instruments through loans to support production of commodities for exports. These take the forms of pre-shipment and post-shipment export financing. The facility is able to cover up to 100 percent of the value of exports and a repayment period of between 6 months and 12 years, depending on the production cycle. The loan is generally affordable at LIBOR+1 percent (basic spread) + risk spread. Other financial supports for export diversification include supplier's credit, buyer's credit, export credit insurance, tax exemption, and special export programmes.

Several committees have also been set up to regularly articulate, assess, monitor and evaluate policies to encourage SMEs to participate in exports. One of these is the Export Promoting Agency (or APEX), working closely with the Brazilian agency that supports micro and small companies (SEBRAE). The committee comprises Ministry of Development, Industry and International Trade (MDIC), the Ministry of International Affairs, and some private exporting companies. CAMEX is another institutional structure set up to focus on promoting export diversification. It is chaired by the Minister of MDIC and includes, among others, the Ministry of Finance, Ministry of Budget and Management, and Ministry of Foreign Affairs. Its main focus is to articulate exports policies and regularly evaluate their success.

Strong institutional support and investment in R&D were also forged to support export diversification. Between 1981 and 2013, for example, Brazil spent a cumulative total of US\$61.6 billion on agriculture R&D when measured in 2011 PPP. Agriculture research intensity was also high, with 1.6 per cent average annual agriculture R&D expenditure (excluding private for profit sector) as a percentage of agriculture GDP. Through this scheme, the country has built one of the largest agricultural research systems in the world, through well-funded technological research undertaken by the Brazilian Agricultural Research Corporation, EMBRAPA (Empresa Brasileira de Pesquisa Agropecuária). The policy has allowed the country to diversify exports into a larger basket of value added agricultural commodities.

Today, Brazil ranks as the 21st largest export economy in the world. The country boasts of being a major exporter of varieties of goods and services, ranging from light manufactures to complicated industrial products that include aircraft. The country has succeeded in lifting over 40 million people out of poverty between 2003 and 2014, arising from its socioeconomic progress and policy that include exports promotion and diversification. It has also succeeded in reducing inequality considerably, measured by the Gini coefficient, from 58.1 percent in 2003 to 51.5 percent by the end of 2014 (see Weisbrot, Johnston and Lefebvre 2014)

It must be stressed, however, that while the generally unorthodox policies were pursued by Brazil, the ensuing economic progress was not sustainable, that is, until reforms were pursued (de Mello, 2013). De Mello (p. 304) writes: “The pursuit of macroeconomic discipline has been the single most important contributor to the ongoing improvement in Brazil’s growth performance.”

7.3 Thailand

Thailand is another very successful example in export diversification. The country was known in the 1960s as the “rice economy” because of the dominance of rice in its exports. The country then adopted a dual export diversification strategy (Sarntisart 2000). First, it aimed at upgrading natural resource-based industries, mostly in agricultural and fish products. Second, it concentrated on encouraging labor-intensive manufactured exports, mainly in clothing and electronics.

The government leveraged the dynamism of the private sector in its export diversification drive. It promoted and contributed to creating the right business climate and environment. One way it did this was by investing heavily in infrastructure development. Heavy investments were undertaken in key infrastructure that included roads, irrigation,

support services and crop breeding. Some of these projects were undertaken through public-private partnerships. Industry champions were identified and used to execute most of the government strategic plans for export diversification. As a matter of principle, the government also ensured that all forms of conflict between the public and private sector were avoided.

Thailand was strategic in its approach to export diversification. The country started with areas where it had comparative advantage: agricultural activities that included rubber, and later oil palm and sugar. It then moved up the value chain ladder to agribusiness and manufacturing, reaping the employment benefits of these labor-intensive activities (ADB 2015). The country primarily learned from the strategies adopted by successful early comers, especially Malaysia.

Today, WTO ranks Thailand amongst the world's top 6 countries on agri-food exports. The country once known as "rice economy" has successfully diversified exports into no less than 12 major commodities that account for export earnings worth over US\$1 billion annually. This achievement has opened lots of opportunities for farmers and other stakeholders in the agribusiness and agricultural value chain. It has contributed to significant increases in income and reduction in poverty. Today, the poverty rate in the country, measured in terms of people living on less than US\$1.25 a day, is less than 1 per cent (see World Bank's World Development Indicators database).

But, how was all this export diversification cum development achieved? Warr (2013) shows that the main contributor of growth, and presumably export diversification, in Thailand during 1981-2002 was physical investment, which was financed primarily from Thai domestic savings, with FDI and ODA accounting for only 5 per cent of total investment. Thus, while external financing can help in the short-term, in the final analysis, African countries and LDCs must rely on domestic resources for sustained growth and development. That means they must create conditions that would retain capital and minimize capital flight.

8. Policy Recommendations and Conclusion

It seems appropriate to now discuss a number of recommendations for different stakeholders on what needs to be done to improve exports diversification, particularly in Africa and LDCs, with positive implications for meaningful employment. These recommendations are based on the findings in the theoretical and empirical literature reviewed as well as the cross-country panel analysis for Africa and developing countries generally.

8.1 Policy Recommendations

8.1.1 For Africa and LDC governments and policymakers

Develop a capable, accountable, developmental and transformational State. African countries need to transform to 'developmental states', rather than the predatory ones that seem to have characterized many in the past (Ndulu et al., 2008a, 2008b). Such a State would focus on providing the enabling governance, institutional and regulatory functions that are conducive to private-sector participation in promoting exports diversification. Experiences of successful export diversifying countries show that the State needs to be disciplined in order to, in particular, minimize rent-seeking opportunities. There is the need to formulate macroeconomic policies that incorporate export diversification as one of its main objectives, and to create the needed institutional and regulatory frameworks for implementation of the policy, as well as monitor and evaluate progress and correct any observed deviation in a timely manner. Given the limited resources at the disposal of the State, forging public-private partnership arrangements in implementing some of the transformation programmes and projects would be desirable.

Focus on developing strategic national and regional infrastructure. African countries and LDCs need efficient infrastructure and logistics as a precondition for reducing transactions costs and promoting globally competitive exports. This is especially true of transport and ports infrastructure and logistics. Policymakers need to formulate better infrastructural policies that will lower costs of doing business and attract domestic and foreign investment to various sectors for expanding production of commodities for exports. Many African countries are not big enough to efficiently develop power infrastructure and build exports logistics. This holds true for other infrastructure such as airports and fiber optic backbone that could help improve information and communication technology. One possible way to handle this challenge is for African countries and LDCs to collectively promote regional infrastructure, in order to reduce

business risks, uncertainties, and exports costs. The benefits of this cooperation would include pooling together the resources of the countries, thus making it possible for the execution of infrastructure development projects that individual countries would otherwise not be able to undertake. Such cooperation could also contribute to expanding regional markets and deepening regional integration among the countries.

Prioritize financing for export-oriented firms. There are very limited financing instruments that private export-oriented firms can tap into in Africa and LDCs generally. Moreover, interest rates are very high in most of these countries. The government should provide adequate financing through innovative sources that may include raising special bonds that allow private commercial banking institutions to lend to these firms at concessionary rates. Export-promotion funds could also be used to undertake scoping export-oriented activities that may include trade and marketing missions abroad, payments for consultancy fees on technical assistance and support, and other related export-oriented activities. Governments should additionally consider direct credit incentives and selective subsidies that target export-oriented firms. Priority should be given to potentially new export sectors that hold high promise for expanding the export horizon of LDCs. Such subsidies should be structured in such a way that they do not encourage rent-seeking behaviours but rather benefit working capital.

Focus on developing and integrating African economies into the global value chain (GVC). Africa's share in GVC remains the lowest among all the developing regions of the world. According to AfDB (2014), Africa's share of trading in intermediate goods in GVC was only 2.2 percent in 2012, though that even represents an increase from 1.4 per cent in 1993. Yet, Africa engages in GVC more than any region of the world, developed or developing (Foster-McGregor et. al., 2015). This seeming paradox, however, emanates from the fact that much of Africa's participation in GVCs is in upstream production, with the firms in the region acting as primary inputs provider to firms in other countries that are further down the value chain. Overall, about 60 per cent of Africa's GVC integration is due to the role of the continent as a source of raw material inputs for other countries' exports rather than as a production hub. There is the need for the continent to focus on improving its backward integration and expanding GVC linkages to diverse sectors of the economy. A relatively more convenient starting point is with regional value chain (RVC) integration as a stepping-stone to GVC integration. This is an easier, more convenient and manageable process for the continent that could provide economies of scale for ultimate GVC integration. To achieve this, the region should start from its area of comparative advantage, that is, agriculture and agri-business. Countries in the region should also work hard through its continental institutions to deepen intra-African trade as a channel for promoting RVC integration at both country and regional levels.

African governments should develop macroeconomic and sectoral policies that seek to establish value-adding production networks, reduce non-trade barriers, and initiate strategies for improving product quality and standards.

Strengthen the institutional and regulatory framework. The prevailing institutional and regulatory frameworks in many LDCs and African countries seem to hinder export diversification, due in great part to the complex and cumbersome nature of exports regulations. Governments should work towards reviewing their regulatory frameworks with a view to understanding the extent to which they are promoting or hindering businesses, especially exports diversification. Any deficiency should be corrected efficaciously, simplified, properly coordinated, and effectively harmonized.

Support SMEs to access export markets. There is a consensus in the literature that SMEs are the main drivers of employment creation, export diversification and broad-based economic development. Support for the SMEs to access global markets would further provide them with opportunities to expand their businesses, become more profitable, diversify exports activities, and achieve economies of scale. The key areas of support include: provision of information and knowledge on foreign market conditions, establishment of foreign channels of distribution, improved competitiveness through subsidized financing, meeting standards and specifications of foreign markets, and political economy issues emanating from home and foreign jurisdictions. Specialized national and regional institutions that focus on providing technical assistance for SMEs on export promotion should be established. Where countries already have export promoting agencies, these institutions should be strengthened. It is also recommended that such institutions be scaled up to a continental level, in order to enable countries in the region to enjoy derivable collective institutional benefits.

Initiate industrial development policies that are capable of facilitating vertical and horizontal export diversification. A strong relationship exists between exports and industrialization (ECA 2015). Deliberate efforts must be made to encourage FDI flows into non-traditional sectors such as manufacturing, production of new primary commodities, and activities that encourage quality upgrades of existing exports. These can be achieved through focused industrialization policies. A potentially useful channel to explore in this regard is promoting special economic zones, industrial parks, or export processing zones. As shown earlier, a number of economically successful countries in Asia and elsewhere have leveraged this option to diversify their economies into non-traditional and labour-absorbing sectors, especially manufacturing. China has been a forerunner in utilizing this industrial development strategy, which has been identified as perhaps the most sustainable route to economic prosperity and success, especially for employment and innovation. In addition, this industrial development option has the

potential to promote FDI inflows and develop human capital in diverse non-traditional sectors of African economies for export promotion and diversification. China has indeed assisted Ethiopia and Rwanda to achieve some success in this regard. Other African national governments should explore the possibility of working with early-comer countries like China in exploring this industrial development option for economic and export diversification. Better still, China can be engaged at the continental level through the Forum for China-Africa Cooperation (FOCAC), which may be more effective than country-specific efforts.

Invest in human capital development. Developing African countries need to develop its human capital as a strategy for promoting export diversification. The continent needs more skilled labour and better-educated work force to drive economic and export diversification for employment. The importance of well-trained and skilled labour cannot be overemphasized for promoting competitiveness and economies of scale. Skilled workers promote efficiency through effective application of cost-cutting production techniques. To retain skilled labor, African countries should also develop specific technology transfer, acquisition, adoption, adaptation and development strategies at national and regional levels. Furthermore, it would be desirable for the public sector to deepen its collaboration with the private sector to provide practical skills development for workers in both traditional and non-traditional sectors, with a strong focus on new and potential sectors that are capable of promoting export diversification.

The above recommendations may be viewed as a 'wish list', requiring a special focus; after all, the government budget is not unlimited. Most critically, African and LDC governments must ensure that the cost of doing business is minimized.

8.1.2 For continental, regional and sub-regional institutions

Take the lead in coordinating regional infrastructure development. The Programme for Infrastructure Development in Africa (PIDA) initiated by the African Union Commission (AUC) in partnership with the African Development Bank (AfDB), United Nations Economic Commission for Africa (UNECA), and NEPAD Planning and Coordinating Agency (NEPAD Agency) is an important milestone and a good starting point for this type of infrastructure development strategy. The purpose of this infrastructure development initiative is to provide strategic long-term planning for regional infrastructure development in a coherent way in Africa. This is a welcome development that should be vigorously pursued and implemented. Cooperation and synergy among the continental organizations would give the needed credibility to regional infrastructure development initiatives, which should help attract financing from prospective stakeholders, including private investors, global development and regional finance institutions, and national

governments of developed countries.

Assist LDCs to initiate continental export diversification policy. There is the need for continental institutions to take responsibility for assisting countries on the continent to articulate a continent-wide export diversification strategy. Such continental policy could become a template for individual countries to copy, adapt and modify to suit local socioeconomic conditions. These institutions should leverage their global network and technical and human capacity to develop this type of policy for the benefit of the continent. For example, in attracting FDI, coordinating and harmonizing business-operating rules regionally or sub-regionally might be an effective strategy to counter demands by powerful multinational firms and to obviate 'race to the bottom' strategies (Fosu, 2004).

Promote trade facilitation. The importance of trade facilitation in export promotion and diversification has made it an increasingly important issue in national, regional and global trade agenda.⁸ Trade facilitation in modern times is highly sophisticated and is not just about movement of goods but also involves the use of standard and electronic messages for trade transactions. There is also need for sophisticated and easily understood legal and regulatory framework, functioning information and communication technology systems, and transport infrastructure capable of facilitating trade across board. The management of this complex web of activities, interests and policies involved in trade facilitation may be beyond the comprehension and execution of many LDCs due to limited capacity. Continental and sub-regional institutions should, therefore, assist LDCs to develop the needed policies, instruments, and infrastructure for promoting trade facilitation.

Deploy innovative options for export financing. For a long time, the focus on export financing has been on applying traditional financing means, which include: trade credit; guarantee and insurance instruments against political, commercial and foreign exchange risks; commercial banks' export credits; and short-term working capital financing. These important instruments for financing exports diversification should be deepened. However, given the needs of LDCs, these instruments are not sufficient. There is the need to explore innovative options that could complement these traditional export diversification-financing instruments. One of such innovative financing options is structured financing. This is export diversification financing that ensures the sharing of trade-financing risks based on the capability to bear such risks. Thus, exporting firms in Africa, usually SMEs that are considered risky because of their limited financial capability, could have the risks inherent in their activities transferred to more financially

⁸ Seck (2016) for instance finds that African exporting firms respond positively to trade facilitation, and even more so than their non-African counterparts.

capable institutions. This risk-minimizing strategy would assist SMEs to borrow operating funds from commercial lenders. Continental institutions like the African Export-Import Bank (AFREXIM Bank) should take the lead in assisting African countries to think through, develop, test and deploy the various innovative financing options for export diversification.

8.1.3 For private sector businesses

Take full advantage of export-promoting incentives of the government. Most LDC governments have a wide array of incentives available to private sectors to explore for promoting exports diversification. However, private sector actors hardly make full use of these incentives. One possible reason could be a lack of knowledge on the existence of such incentives, to begin with. The export-oriented firms should explore these opportunities, with private sector businesses making good use of the available information from the government to update their knowledge on these incentives and employ them accordingly.

Initiate public-private partnerships (PPP) export diversification project and infrastructure financing. This is a risk-sharing and investment risk-mitigating financing strategy between private and public actors. Several options are: Build-Own-Operate-Transfer; Build-Own-Operate; Build-Transfer; Build-Transfer-Operate; and Build-Lease-Transfer. These PPP project-financing options have been found to be effective for managing diverse projects in several countries under different socioeconomic and political conditions. Private sector investors would do well to strive to mitigate and share their risks by advocating the conducive PPP financing options for public sector collaboration. However, in embracing PPPs, governments must recognise that they also pose significant risks and challenges. For example, they represent higher financing costs for governments and the existence of contingent liabilities also exposes governments to significant debt burdens. In addition, PPPs are complex contractual arrangements and there is generally lack of transparency associated with these contracts, with negative consequences for national ownership of the process and outcomes. Overcoming these challenges requires that governments put in place effective policies and structures to regulate the process to ensure that it leads to good development outcomes.

8.1.4 For development partners

Use ODA to build export promoting and diversifying capabilities. African countries and LDCs need to develop their technical capabilities and infrastructure toward improving their export diversification base. The donor community can support this effort through the use of their technical expertise. LDCs often lack access to trade data

and information for the purpose of export diversification. They generally also lack the capacity to comprehend or meet the myriads of global market trade regulations. The donor community could support these countries by utilizing ODA to provide access to and assistance to meet such regulations, through specific and targeted initiatives. The WTO's Aid for Trade initiative can be effectively utilized to support African countries and LDCs in this regard.

Another way the development partners could support these countries would be through a new phenomenon known as 'impact investment'. This phenomenon refers to 'making money while doing good', that is, investments generate financial benefits to the investor while simultaneously providing a beneficial and measurable socio-environmental impact. Such investments could be applied to expanding existing capacity and promoting new ones. Donors should seriously consider re-directing more aid to impact investments that focus on developing export diversification-supporting infrastructure and projects.

Use your political leverage to create a more level-playing field. Although several programs have been designed to assist African countries or LDCs generally in the international trading system - e.g., ACP, EBA, and AGOA – it remains the case that WTO rules are constraining for these countries in certain cases. Synthesizing a large number of country case studies, Fosu (2013b, p. 13), for instance, bemoans:

“As apparent from the case studies, many of the developed countries were able to employ consistently the leverage of government in the economy, including the use of government subsidies and more freely available technological ideas. Under WTO, however, this political space has now been severely limited, via particularly the TRIMs and TRIPs agreements... Unfortunately, the measures may be severely constraining, especially for low-income and least-developed countries (LDCs). Finding ways in which to relieve the constraint for these countries, therefore, would help to level the playing field for them, from an intertemporal equity perspective at least.”

8.2 Conclusion

This study began by taking stock of existing theoretical and empirical evidence on the relationship between exports diversification and employment in developing countries with specific focus on Africa and LDCs. Neoclassical trade theory suggests that specialization of production, based on comparative advantage, would be the optimal policy to guide resource allocation. Specifically, it posits that countries should specialize in the production and exporting of commodities for which they have relative abundant endowments. In this regard, African countries and LDCs would generally export primary

products, given their relative abundance in land and unskilled labor, while importing manufactured products.

Recent theories have deviated from the above theory of 'static comparative advantage'. They argue that initial endowments may be altered, thus leading to 'dynamic comparative advantage'. Further, more complex production in the form of manufacturing would be growth-enhancing in the longer term. The preponderance of the empirical evidence is in support of this view, in that countries exporting mainly manufactures have experienced relatively high growth. Thus, export diversification would appear to be a better growth strategy for African countries and LDCs. Moreover, it is anticipated that the output growth would be translated into employment expansion via derived demand. The extent of employment expansion would, however, depend on the labor-intensive nature of the production process.

Though mixed, the scant empirical evidence seems to support the view of higher export diversification leading to higher employment. Much of this evidence is based on very limited existing country studies. Attempts have been made in this paper to provide some econometric evidence based on cross-country and panel data. Although the evidence seems somewhat modest, it nonetheless points toward greater export diversification leading to higher employment, especially industrial employment, while reducing vulnerable employment. These findings are, therefore, consistent with the theoretical view that export diversification would likely result in greater growth, and would in turn lead to higher employment via derived demand. The extent to which that occurs, however, would depend on the labor intensity of production.

It is hoped that a number of the recommendations outlined in the present study will receive significant attention. Obviously, budget constraints and idiosyncratic realities would limit the choice among these for implementation. In the final analysis, though, the key is to ensure that a conducive environment is provided in order to minimize the risk of undertaking relatively productive long-term investment. For, it is such investment that is likely to yield export diversification for sustained growth and employment creation in Africa and LDCs.

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Appendices

Appendix A

Table A1

Major Regional Economic Communities in Africa

Major Regional Economic Communities	Type	Areas of Integration and Co-operation	Date of entry into force	Member States	Specified objectives
Arab Maghreb Union (UMA)	Free Trade	Goods, services, investment, migration	17 Feb. 1989	Algeria, Libyan Arab Jamahiriya, Mauritania, Morocco, Tunisia	Full economic union
Common Market for Eastern and Southern Africa (COMESA)	Free Trade	Goods, services, investment, migration	8 Dec. 1994	Angola, Burundi, Comoros, Democratic Republic of the Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia, Zimbabwe	Common Market
Community of Sahel-Saharan States (CENSAD)	Free Trade	Goods, services, investment, migration	4 Feb. 1998	Benin, Burkina Faso, Central African Republic, Chad, Côte d'Ivoire, Djibouti, Egypt, Eritrea, Gambia, Libya, Mali, Morocco, Niger, Nigeria, Senegal, Somalia, Sudan, Togo, Tunisia	Free trade area and integration in some sectors
Economic Community of Central African States (ECCAS)	Free Trade	Goods, services, investment, migration	1 July 2007	Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Sao Tome and Principe, Rwanda	Full economic union
Economic Community of West African States (ECOWAS)	Free Trade	Goods, services, investment, migration	24 July 1993	Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo	Full economic union
Inter- Governmental Authority on Development (IGAD)	Free Trade	Goods, services, investment, migration	25 Nov. 1996	Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, Uganda	Full economic union
Southern African Development Community (SADC)	Free Trade	Goods, services, investment, migration	1 Sep. 2000	Angola, Botswana, Democratic Republic of the Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia, Zimbabwe	Full economic union
Economic and Monetary Community of Central Africa (CEMAC)	Customs Union	Goods, services, investment, migration	24 June 1999	Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, Gabon	Full economic union
East African Community (EAC)	Customs Union	Goods, services, investment, migration	7 July 2000	Kenya, United Republic of Tanzania, Uganda, Rwanda, Burundi	Full economic union
Southern African Customs Union (SACU)	Customs Union	Goods, services, investment, migration	15 July 2004	Botswana, Lesotho, Namibia, South Africa, Swaziland	Custom Union
West African Economic and Monetary Union (UEMOA)	Customs Union	Business law harmonized. Macroeconomic Policy convergence in place	10 Jan. 1994	Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, Togo	Full economic union

Source: UNCTAD 2009.

Appendix B

Table B1

Summary Statistics, 1991-2010

Variable	Obs.	Mean	Std. Dev.	Min	Max
Sample of Developing Countries					
XDIV	90	3.870851	1.046187	1.879353	6.135191
EMP	90	59.90759	12.26592	33.7052	85.7767
LFP	90	65.18279	11.23624	41.1835	88.709
LPOP	90	16.14937	1.573708	11.86787	20.95274
Sample of Advanced and Developing Countries*					
XDIV	50	2.626607	.8541368	1.358374	4.556474
IEMP	50	22.91144	5.454154	11.80667	34.0225
LPOP	50	16.76114	1.521049	12.63279	20.95274
Sample of Advanced and Developing Countries					
XDIV	38	2.436067	.8148892	1.446567	5.021394
VEMP	38	24.97378	15.82501	5.108182	62.29273
LPOP	38	16.96517	1.263862	14.82421	19.50495

Notes: XDIV is the export diversification index, which decreases with the degree of diversification; EMP is the proportion of the population that is employed; LFP is the proportion of the population that is engaged in economic activities; IEMP is the industrial share of employment; VEMP is the proportion of employment that is 'vulnerable'; LPOP is the population size, expressed in logarithm.

* Country classification is based on World Bank (2010).

Table B2

Correlation Matrix of Export-Diversification and Employment Measures in Developing Countries (row 1, 90 countries) and Advanced Countries (rows 2 and 3, 50 and 38 countries, respectively), 1991-2010

	EMP	LFP	IEMP	VEMP
XDIVs	-0.0756 ^a	-0.0631 ^a	-	-
	-	-	-0.4752 ^a	-
	-	-	-	0.4030 ^a

^a Significant at 1% significant level.

Appendix C

Table C1

List of African Countries Included in the Sample

Algeria, Angola, Benin, Burkina Faso, Burundi, Central Africa Republic, Cape Verde, Cameroon, Chad, Comoros, Congo Dem. Rep, Congo Rep., Cote D'Ivoire, Egypt, Arab Rep., Ethiopia, Eritrea, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea Bissau, Guinea, Kenya, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Niger, Nigeria, Rwanda, Sao Tome And Principe, Senegal, Sierra Leone, Somalia, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, And Zimbabwe

Table C2

List of Non-African Developing Countries Included in the Sample

Albania, Argentina, Azerbaijan, Bangladesh, Bolivia, Brazil, Bulgaria, Cambodia, China, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Fiji, Guatemala, Guyana, Haiti, Honduras, Indonesia, Iran, Islamic Rep., Iraq, Jamaica, Sri Lanka, Moldova, Maldives, Mexico, Mongolia, Malaysia, Nicaragua, Nepal, Pakistan, Panama, Peru, Philippines, Paraguay, Romania, Turkey, Venezuela, Kyrgyz Republic, Thailand, Vietnam, Yemen

Table C3

List of Advanced Countries Included in the Sample

Australia, Austria, Bahamas, Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Netherlands, Norway, Spain, Poland, United States, and Sweden.

Table C4

Data Sources

Variables	Variable name	Sources
Export Diversification Index	XDIV	IMF, UN-NBER database (2017)
Employment-to-population ratio (ages 15+)	EMP	ILOSTAT database (2017)
Labor force participation (ages 15+)	LFP	ILOSTAT database (2017)
Industrial share of employment	IEMP	ILOSTAT database (2017)
Vulnerable share of employment	VEMP	ILOSTAT database (2017)
Population size in logarithm	LPOP	World Bank, World Development Indicators (2015)

