

Chapter One

Introduction

1.1. General Background

“When the sun began to set on Europe’s foreign empires, and former colonies across the globe began in the 1960s to prepare themselves for independence, nobody was that worried about Africa. The anxiety was all for Asia. After all, Africa was a place of great mineral riches and vast agricultural fecundity. Asia, by contrast, seemed to have only problems and population” (Tony Blair’s Commission for Africa, 2005:16).

That was barely four decades ago. At the time of their independence in the 1950s and 1960s, the level of economic development in most of Sub-Saharan Africa (SSA) was fairly comparable with that of East Asia. In fact, in the 1960s, much of the expectation was for SSA to perform better than East Asia because of its large endowments of natural resources. As a matter of fact, in the early 1970s, many countries in Africa could point to significant progress in initiating a process of economic and social development. Some degree of industrialization had been initiated, levels of school enrolment had increased, new roads had been constructed, the indigenization of the civil service had advanced, and so forth. Furthermore, up to 1975, much of the investment in SSA was financed with domestic savings; thus, savings and investment during the period were relatively highly correlated (Mkandawire and Soludo, 1997).

Unfortunately, despite its enormous potential and good start at the beginning, African development that was promising in the 1960s and early 1970s was not sustainable and suffered a huge set-back due to structural, institutional, political, and policy constraints that will be thoroughly discussed in this thesis. Today Africa is the poorest region in the world and the only continent whose economy is stagnating. Half of the population lives on less than one dollar a day. Life expectancy is actually falling. People live, on average, to the age of just 49. In contrast, from 1975 to 2000, GDP per capita in East Asia tripled or quadrupled while life expectancy rose from 54 years to nearly 70 years (ADB 2001).

As African economies stagnated and even retrogressed in some cases during the last 30 years, most of the countries in East Asia recorded phenomenal economic success and rapid structural transformation from producing and exporting low-valued added primary commodities to high value-added and high-tech economic activities. In SSA, real GDP growth experienced a general decline from about 3% in the late 1970s to about 1% in the following decade recovering only slightly in the 1990s to about 2.1% (Lawrence and Thirtle, 2001; World Bank, 1998). On the other hand, for the rapidly growing East Asian

economies per capita income growth has been 7.8% and 9.9% in the 1980's and 1990s, respectively (World Bank, 1998; Masware, 2006).

Hence, the East Asian economies¹ have achieved a sustained and rapid growth in per capita income, undergone structural change on their economies and diversified their economic base over the last four decades. On the contrary, countries in SSA experienced severe stagnation in the levels of per capita income, extreme poverty and trade volatility as a result of too much dependency on the export of few primary commodities. Accordingly, the annual growth in real GDP per capita of SSA averaged about 0.44% over the period 1975-2004, compared to about 4.1% for East Asian economies during the same period. Although there are considerable differences among the East Asian economies, as a group they consistently outperformed other developing regions since the 1960s, and their achievement has attracted the attention of policy makers everywhere. In other words, East Asia became an undisputed development success and the most dynamic region in the world in its speed of industrialization while SSA remained the poorest and the most marginalized continent in the world.

Therefore, the development experiences of East Asian countries are relevant for Africa today, because these countries at their early stages of development shared certain similarities with many African countries. For instance, four decades ago, the per capita income of South Korea was comparable with that of the Sudan in Africa. However, since the 1960s, South Korea has achieved an incredible record of growth to become one of the 26 richest countries in the world and was able to join the trillion dollar club of world economies in 2004 while the Sudan is still one of the 33 Least Developed Countries (LDCs) in sub Saharan Africa (Okafor, 2009). Accordingly, starting from a quite similar per capita income in the early 1960s, East Asia and SSA have experienced a divergent development path and outcome. The growing divergence in income per capita for selected East Asian and SSA countries is clearer in table 1.1 below.

In 1965, for instance, the Korea Republic, China and Thailand had incomes per capita of \$106, \$97 and 136, respectively, lower than most of SSA countries listed in table 1.1 such as Congo Democratic Republic, Ghana, Niger, Sierra Leone, Liberia, Zimbabwe and Zambia. However, in 2004, Korea, China, and Thailand registered a per capita income of \$ 14,165, \$1490, and \$2,579, respectively. In the same time span, however, Ghana, Niger, Sierra Leon, Zimbabwe and Zambia managed to increase their per capita income only from \$251, \$186, \$146, \$297, and \$291 to \$402, \$226, \$199, 362, and \$490, respectively. In fact, Congo Democratic Republic and Liberia didn't even maintain the income per

¹ The 10 East Asian economies are China, Hong Kong, Taiwan, Indonesia, Japan, Korea, Malaysia, the Philippines, and Thailand. Japan is included because it made the transition to high-income status in the past four decades.

capita they had four decades before and went down from an income per capita of \$ 229 and \$ 207 in 1965 to \$115 and 137 in 2004 respectively.

By the same token, South Africa which is regarded as the best economy in Africa and Singapore in East Asia had an income per capita of \$553 and \$512 in 1965 respectively, which were fairly higher than almost all East Asian economies except Japan and Hong Kong. In 2004 however, South Africa registered a per capita income of \$4,661 whereas Singapore achieved an income per capita of \$ 26,319 which was 51.4 times its income per capita of 1965. In other words, Singapore performed almost 5.6 times the performance of South Africa in the same time span. It is also worth to mention Indonesia, which was once considered as one of the poorest countries in East Asia in 1970 with an income per capita of only \$82. In 2004 however, Indonesia emancipated itself out of the quagmire of under-development and boosted its income per capita up to \$1,180, which was almost 14.4 times the level of its income per capita of 1970.

Figure 1.1 also indicates how SSA and East Asia diverged in income per capita since the 1970s after having more or less the same beginning in the 1960s.

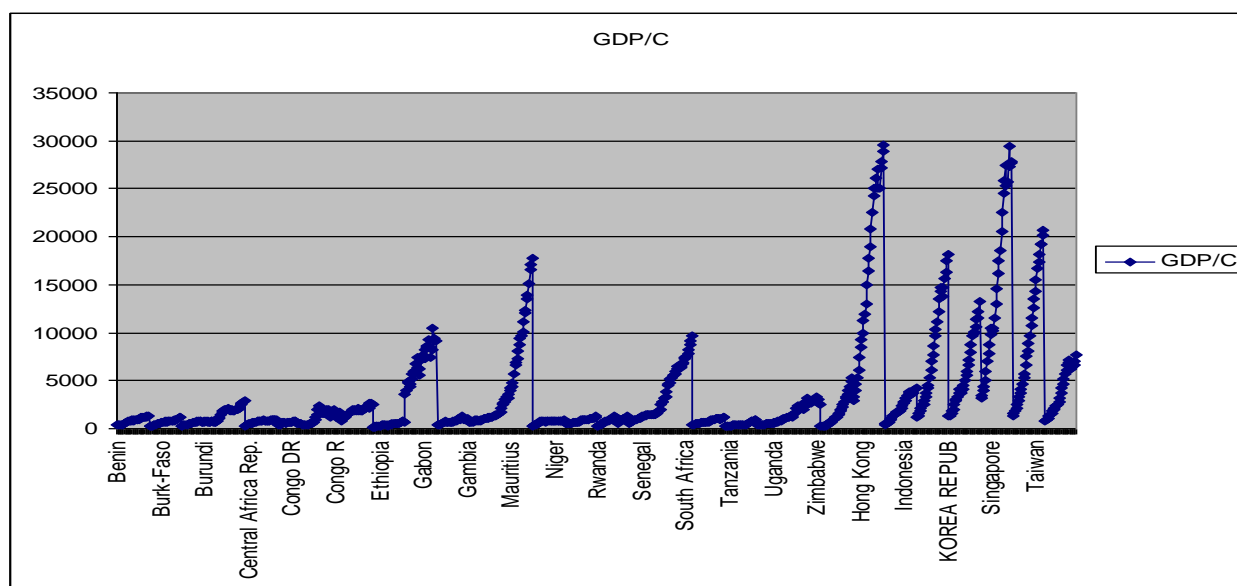
Table 1.1: GDP/C for Selected SSA and East Asian Countries, 1965 and 2000 (Current US \$)

Country	1965	2004	2004/1965
<i>Sub-Saharan Africa</i>			
Ghana	251	402	1.6
Congo, Democratic .Republic	229	115	0.5
Liberia	207	137	0.7
Niger	186	226	1.2
Nigeria	123	637	5.2
Sierra Leone	146	199	1.4
Zambia	291	490	1.7
Zimbabwe	297	362	1.2
South Africa	553	4661	8.4
<i>East Asia</i>			
Indonesia	82 ²	1180	14.4
Thailand	136	2579	19.0
China	97	1490	15.4
Korea, Rep.	106	14165	133.6
Malaysia	355	4952	13.9
Singapore	512	26319	51.2
Hong Kong, China	677	24437	36.1
Japan	920	36051	39.2

Source: World Development Indicators Database

² Data of 1970 was considered instead of 1965, since it was not available for that particular year.

Figure 1.1: Income per capita in SSA and East Asia (1975-2004)



Likewise, as shown in table 1.2, SSA's share in world exports fell from about 3.7% in 1980 to 1.5% in 2002, while East Asia's share in world exports increased from 17.9% to 23.3% in the same period. Similarly, Sub-Saharan Africa's share in world imports fell from 3.1 % in 1980 to 1.4% in 2002, while East Asia again increased its world import share from 13.1% to 20.8% in the same time span.

Table 1.2: Shares of SSA and East Asia in World Merchandize Trade, 1980-2002

Year	Export			Import		
	World	East Asia	SSA	World	East Asia	SSA
1980	100	17.9	3.7	100	13.1	3.1
1985	100	15.6	2.5	100	15.2	2.1
1990	100	16.9	1.9	100	15.9	1.6
1995	100	21.6	1.5	100	21.9	1.6
2000	100	24.3	1.5	100	21.1	1.3
2002	100	23.3	1.5	100	20.8	1.4

Source: UNCTAD Hand Book of Statistics, UNCTAD database

In line with this, though many developing regions, particularly East Asians have been transformed from exporters of primary products to manufactured products in the last three decades, Africa hardly benefited from the boom in manufactured exports. Standing at around 30 per cent in 2000, the share of manufactured exports in the continent's total merchandise exports had increased by only 10 percentage points compared to 1980. The continent's share in world merchandise exports fell from 6.3 per cent in 1980 to 2.5 per cent in 2000 in value terms (Table 1.3).

Similarly, Africa’s share of total developing-country merchandise exports fell to almost 8 per cent in 2000, only a third of its value in 1980, while the share of world manufactured exports remained a little below 1 per cent. In contrast, East Asia’s performance has been important with respect to both total merchandise exports and manufactures. Its share of global merchandise exports increased from 18 per cent in 1980 to 22 per cent in 2000, while its share of total developing-country merchandise exports increased from almost 60 to 72 per cent over the same period. Similarly, its share in global manufactures trade increased threefold, reaching 21.5 per cent in 2000 (Table 1.3). The value of East Asia’s total exports recorded 7 per cent average annual growth over the period under review, compared to a mere 1 per cent for Africa.

Table 1.3: Export Structure of Africa and East Asia by Product Category, 1980 and 2000

Region	1980		2000	
	All Merchandise ³	Manufactures ⁴	All Merchandise	Manufactures
Africa share in:				
Global exports	6.3	0.8	2.5	0.8
Developing Countries	20.3	7.8	7.9	3.0
Developing Asia share in:				
Global exports	18.1	7.1	22.4	21.5
Developing Countries	58.5	66.9	72.0	79.0

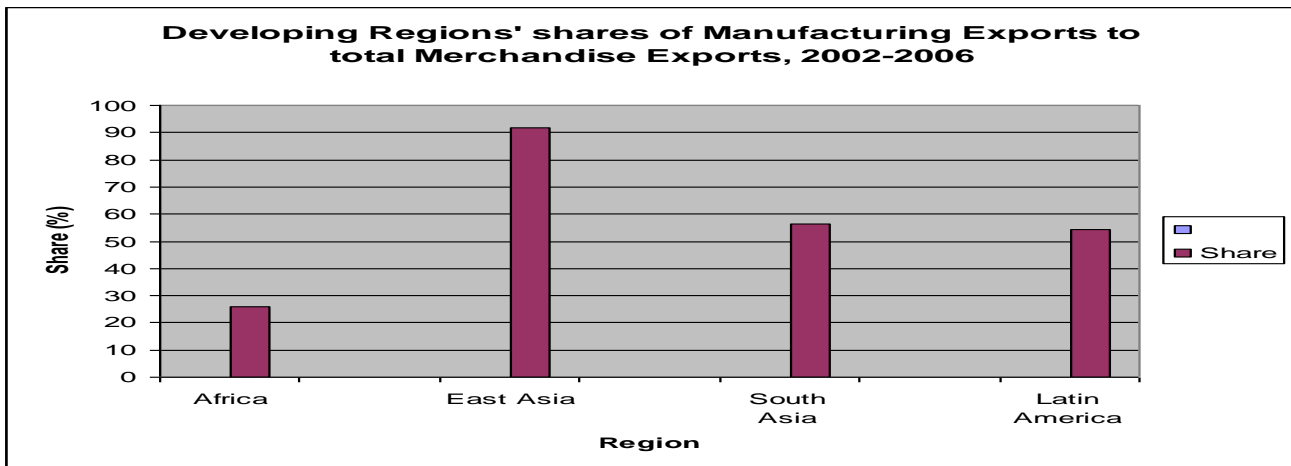
Source: UNCTAD (2003)

Among all developing regions in the world, it is Africa that has the lowest share of manufacturing exports to total merchandise exports as shown in figure 1.2; whereas, East Asia has achieved a radical economic structural change and becomes “center of excellence” in manufacturing within the developing world.

³ This refers to standard International Trade Classification (SITC) 0–9.

⁴ This refers to standard International Trade Classification (SITC) 5–8, less than 68.

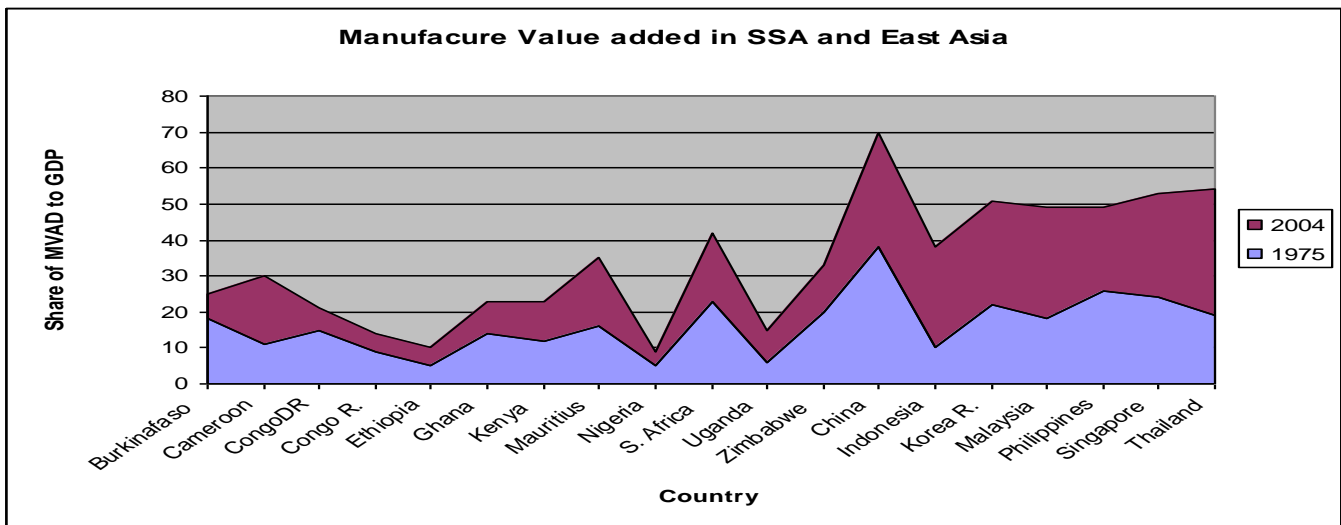
Figure 1.2: Developing Regions' shares of Manufacturing to Total Exports, 2002-2006



Source: UNCTAD (2008a)

Figure 1.3 below further demonstrates how the manufacturing sectors in SSA and East Asia experienced two extremes measured in terms of share of manufacturing value added to GDP.

Figure 1.3: Manufacturing Value Added in SSA and East Asia, 1975 and 2004



What is more important is that the ratio of exports to GDP increased continuously in all East Asian countries in the past four decades as shown in table 1.4. It is salient, for example, how Thailand increased its ratio of exports to GDP from 13% to 16%, to 21% and to 31 and finally to 52 %.

Table 1.4: Increases in Exports with Respect to GDP in East Asian Countries (in %)

Exp/GDP	Period				
	1961-70	1971-80	1981-90	1991-97	1998-2001
China	N/A	5.6	10.3	19.1	20.6
Hong Kong	55.6	64.1	90.0	116.8	114.6
Korea	5.5	22.8	30.9	25.1	37.5
Singapore	105.9	113.1	138.4	135.0	140.8
Indonesia	11.1	23.1	22.7	23.2	42.1
Malaysia	42.9	44.2	53.3	75.3	104.2
Thailand	13.8	16.3	21.6	31.6	52.4
Philippines	11.4	15.4	16.4	22.5	48.2

Source: Sandee and Wengel (2004)

Generally, the value-added export oriented activities that have driven many dynamic developing economies are conspicuously absent in SSA. Linkage between local industries remains minimal and mostly superficial. The technological level of the existing industrial activities remains generally low. Likewise, the average ratio of manufactured exports to total exports in East Asia has been recorded as 70.1%, while it was only 14.6% for SSA. Similarly, the average number of exports goods from East Asia has reached about 202 items, while it stands at about 64 items for SSA (Table 1.5).

Table 1.5: Export Structure and Growth Performance of SSA and East Asia, 1975-2004

Description	SSA	East Asia
Number of Export Goods	64	202
Share of Manufactured Exports to Total Exports (%)	14.6	70.1
Growth in Exports (%)	4.8	9.4
Growth in Real GDP per Capita (%)	0.44	4.1
GDP per Capita	1669.4	8070.7

Source: Own Calculation based on data from WDI for countries listed in table 1.10

Despite Africa's huge natural resources endowment and abundant cheap labor force, FDI inflow to Africa is extremely low compared to other regions of the developing world. For instance, table 1.6 below indicates that SSA's share of the global FDI in 2005 is only 1.8 % compared with East Asia's 16.2% of the same. Moreover, SSA's FDI inflows continued to be geographically concentrated in a few countries such as South Africa, Nigeria, Angola and Sudan. Of course, SSA's share of the world total FDI has increased from 0.5 % (\$ 6.3 billion) in 2000 to 1.6 % (\$ 17.2 billion) in 2005. This was partly attributed by the policy measures undertaken in many African countries in adopting new laws and measures to attract more FDI, which continues to gain in importance in international economic transactions and as an instrument of international economic integration.

Table 1.6: FDI Inflow to SSA and East Asia (in billion's current US \$)

Year	FDI Inflow in billion's US\$			Shares in (%)		
	World	East Asia	SSA	World	East Asia	SSA
2000	1518.7	141.4	6.8	100	9.3	0.5
2001	794.8	98.4	14.2	100	12.4	1.8
2002	737.6	88.3	10.2	100	12	1.4
2003	641.6	92.3	13.0	100	14.4	2
2004	751.7	141.8	10.7	100	18.9	1.4
2005	1116.9	163.1	17.2	100	14.6	1.5

Source: Own calculation based on World Indicators Online

East Asia's success on one hand and SSA's low performance on the other hand raise some crucial questions: Was the nature of the policy package in East Asia very different from Sub-Saharan Africa? Were the effects of government interventions very different in East Asia? What might account for these differences between East Asia and Sub-Saharan Africa? In considering these questions, this thesis critically examines the factors explaining the gap between the East Asian and SSA performance based on theoretical and empirical approaches. Indeed, while at the beginning of this period the industrial base of the economies in this region was small, they transformed into industrialized countries within a relatively short period of time. What accounts, then, for the growth miracles in East Asia? Some economists argue that their rapid growth is explained by their ability to imitate foreign technologies. By adopting technology developed abroad, these countries managed to improve their production functions substantially in a short period of time. In other words, these countries achieved a very rapid growth in total factor productivity (TFP). On the other hand, recent studies revealed that their exceptional growth can be traced to large increases in measured factor inputs: increases in labor-force participation, increases in the capital stock, and increases in educational attainment (Mankiw, 2003:234). However, although countries in East Asia had higher investment rates than others, they had also a spectacular productivity growth far better than other developing countries (Thomas and Wang, 1997).

Overall, East Asia's success was attributed to: (i) mobilization of domestic savings for investment including human capital and physical infrastructure; (ii) a large FDI inflow appropriately used as an alternative source of foreign currency and a big factor in capital formation; (iii) shifting resources from less productive sectors to more productive sectors (vertical diversification); (iv) export-led growth, especially the rapid growth of manufactured exports; (v) stable macroeconomic and institutional environments instrumental in creating confidence among policy makers (World Bank, 1993; Stiglitz et al, 2006) ; and (vi) Japan's role as a leader in East Asian development (Kwan, 1998).

On the other hand, Sachs et al. (2004) have identified the main factors contributing to SSA's weak economic performance and poverty as: (i) a level of physical and human capital so small that it fell below the threshold needed to start modern production; (ii) very low levels of savings; (iii) high rates of population growth; (iv) a very low rate of diffusion of technology from abroad; (v) unfavorable economic policies; (vi) narrow based economies; and (vii) the absence of a strong economy to take the lead/absence of a leading goose that may lead the flocks in the continent (the concept of the flying geese model will be discussed in detail in chapter 2). Furthermore, it was a well known fact that the macro-economic policies followed by most of the SSA countries until the 1990's were unfavorable to economic growth: Imports and exports subject to severe restrictions and under state ownership or control; high walls of tariffs and export taxes that restricted international trade; over-valued exchange rates; wide margins for marketing parastatals; and price and quantity controls that were aimed primarily at reducing food prices for urban consumers.

One of the most remarkable features of growth in most East Asian countries is that it was accompanied by rising economic equality (Gerber, 2005). Since the pioneering 1950s work of the economist Simon Kuznets, it was thought that growth in developing countries would first result in falling economic equality, followed later by rising equality (a U-Curve relationship between income and equality). While Kuznet's work was based on measurements from a large number of countries, the East Asian experience has called into question the idea that economic growth in developing countries follows a "Kuznet's curve," in which equality first declines and then rises. Although the conditions that led to greater income equality were rooted in the unique historical experiences of each country, it is also evident that each of the East Asian countries had a similar set of highly visible wealth-sharing mechanisms such as land reform, free public education, free basic health care, and significant investments in rural infrastructure.

For instance, according to Leipziger and Thomas (1997:6), large land reform schemes in both Korea and Taiwan eradicated the landholding classes and made wage income the major source of advancement. In fact, in Taiwan and Korea, land was a scarce asset, and both regimes were prescient in redistributing land to small farmers. These rural constituencies are still government supporters. Again, Korea managed, over the 1965-85 period, to close the gap between urban and rural incomes. Special rural development programs such as the *Saemaul Movement*, agricultural price supports, and a relatively large rural investment program were prominent features of Korean development. Similarly, public housing investments in Singapore and Hong Kong were early priorities of governments bent on maintaining a national consensus on development policies. For instance, in Singapore, early support and trust were built on the housing policies led by the Housing and Development Board. Through its efforts, begun during the First Five Year Plan, public housing construction was one of the plan's top priorities. As a result, owner-occupied housing rose from less than 10 percent in 1970 to 80 percent in 1980

(Leipziger and Thomas, 1997:25). These policies didn't equalize income by themselves, but they provided people with the tools they needed to raise their individual incomes and gave hope for the future.

Nevertheless, it doesn't mean that all East Asian countries have experienced economic growth accompanied with relative income-equality. There are some cases such as China where income inequality has risen rapidly in the past decades across regions, between rural and urban sectors, and within provinces. The largest gains in China have been registered by the leading coastal areas. Even within urban areas, growth in inequality has been fueled by the declining role of subsidies and entitlements, the increase in wage inequality and the layoffs during restructuring.

For all regions, however, it is Africa where income is most unequal as measured by a Gini coefficient of 0.51 (Table 1.7). Uneven distribution of income in turn has perpetuated poverty and alienation in SSA. Increasing income inequality in Africa is mainly caused by concentration of the handful of economic establishments including the few industrial plants and modern infrastructure in one or two urban conglomerations. Inequality has existed not only along lines of region, class, and ethnicity, but also gender and hence modern formal sector employment in Africa has continued to be a largely male domain (Mkandawire and Soludo, 1999). Moreover, where regions were conterminous with ethnicity, uneven development could only fan the flames of ethnic conflicts.

The success of East Asian countries in shifting from producing low productive primary commodities to more productive manufactured products reflects the fact that *even latecomers are able to specialize in high growth areas if some of the pre-conditions are fulfilled*. Thus, as Masuyama and Vandenbrink (2001) noted, unless a country diversifies into critical supporting industries, the development of few industries alone will not produce growth in the economy.

Table 1.7: Income Inequality Measures by World Regions

Region	Gini Coefficient	Share of top 20 %	Share of Middle Class	Bottom 20 %
Africa	0.51	50.6	34.4	5.2
East Asia and Pacific	0.38	44.3	37.5	6.8
South Asia	0.32	39.9	38.4	8.8
Latin America	0.49	52.9	33.8	4.5
Industrialized Countries	0.34	39.8	41.8	6.3

Source: Deininger and Squire (1996)

Nevertheless, Sub-Saharan African countries have still remained dependent on export earnings from a narrow base of a few agricultural and mineral commodities for foreign exchange earnings (Table 1.8)

and have had to endure the consequences of all the problems resulting from the fluctuation of commodity prices in world markets. About 17 of the 20 most important export items of Africa are primary commodities or resource-based semi-manufactures.

In 1965 for instance, primary products accounted for 92% of Africa's exports, and in 1988 it was still 88%. On average, world trade in these products has been growing much less rapidly than manufactures. In fact, world trade in other primary commodities that account for an important proportion of total exports of Africa, particularly agricultural products such as coffee, cocoa, cotton and sugar, has been sluggish, with the average growth of trade in such products in the past two decades barely reaching one-third of the growth rate of world trade in all products (UNCTAD, 2003). World prices for many of the commodities that Africa exports declined between 1990 and 2000: cocoa, cotton, sugar and copper declined by over 25%, coffee by 9% and minerals overall by 14% (WTO, 2001). As noted by Ng and Yeats (2002), one-half of the traditional products in SSA experienced average price changes of 50 % or more during the 1990's.

Theoretical analysis suggests that agricultural commodity prices fall relative to manufacturing products because of relatively inelastic demand and because of the lack of differentiation among producers. More specifically, primary commodities have both a low price and income elasticity⁵ of demand which means that when supply increases, prices can drop dramatically, and demand grows only slowly with income growth. Indeed, during the past three decades the share of agricultural products in global merchandise exports has more than halved falling from about 18 per cent in 1970 to less than 8 per cent in 2000 (Razzaque et al., 2007). Apart from this, primary products are land-based activities and subject to diminishing returns, and there is a limit to employment in diminishing returns activities set at the point where the marginal product of labor falls to the minimum (subsistence) wage (Thirlwall, 2003).

On the demand side, the development of synthetic substitutes further displaces agricultural commodities as intermediate inputs, reducing the growth in demand. This drastic decrease of the SSA presence in world trade was not only the result of the deterioration of the terms of trades (due to low income elasticity of demand) in primary commodities, but also of the loss of competitiveness in manufactures.

⁵ Price elasticity of demand is the measure of responsiveness in the quantity demanded as a result of change in price of the same commodity. Similarly, income elasticity of demand measures the responsiveness of the demand of a good to the change in the income of the people demanding the good.

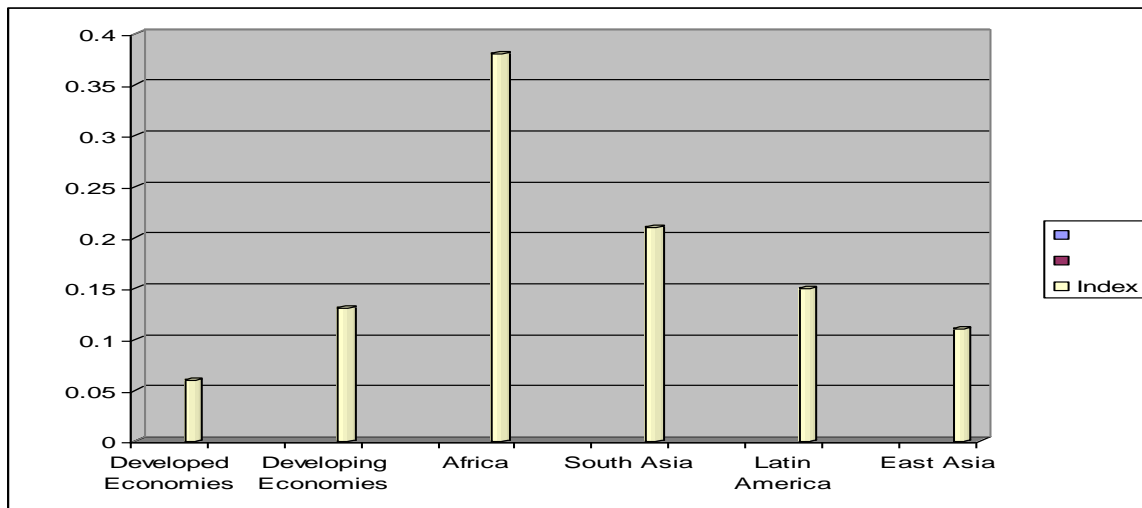
Table 1.8: Main Exports of Selected Sub Saharan Africa Countries

COUNTRY	EXPORTS
Angola	Oil, Diamonds, Minerals, Coffee, Fish, Timber
Benin	Cotton, Palm oil
Botswana	Diamonds, Copper, Nickel, Beef
Burkina Faso	Cotton, Animal Products, Gold
Burundi	Coffee, Tea, Sugar, Cotton, Hides
Chad	Cotton, Oil, Livestock, Textiles
Congo, Dem. Rep	Diamonds, Copper, Coffee, Cobalt, Crude oil
Congo, Rep.	Oil, Timber, Plywood, Sugar, Cocoa, Coffee, Diamonds
Cote d'Ivoire	Cocoa, Coffee, Tropical woods, Petroleum
Equatorial Guinea	Petroleum, Timber, Cocoa
Ethiopia	Coffee, Hides, Oil seeds, Beeswax, Sugarcane
Gabon	Crude Oil, Timber, Manganese, Uranium
Kenya	Tea, Coffee, Horticultural products, Petroleum products
Mali	Cotton, Gold, Livestock
Mauritius	Sugar, Clothing, Tea, Jewellery
Niger	Uranium, Livestock products
Nigeria	Petroleum, Petroleum products, Cocoa, Rubber
Rwanda	Coffee, Tea, Hides, Tin ore
Senegal	Fish, Peanuts, Petroleum products, Phosphates, Cotton
South Africa	Gold, Diamonds, Metals & Minerals, Cars, Machinery
Sudan	Oil, Cotton, Sesame, Livestock & Hides, Gum Arabic
Zambia	Copper, Minerals, Tobacco

Source: Osakwe (2007)

Consequently, Africa is the region that has the highest export concentration index in the world followed by South Asia while East Asia is one of the leading regions next to the developed economies that have the lowest export concentration index as shown in figure 1.4 below. Thus, it is not surprising to note that SSA is the most affected region from the adverse effects of export earnings instability that led the region to further under-development.

Figure 1.4: Export Concentration Index by Regions/Economies of the World, 2006



Source: UNCTAD (2008a)

It is evident from table 1.9 and figure 1.5 that export concentration in SSA is very high while it is very low in East Asian countries. Indeed, it is obvious that such high export concentration in a few commodities (low diversification) in Sub-Saharan Africa was one of the root causes of the region's poor economic performance compared to other developing regions of the world. Hence, as Pinaud and Wegner (2004) noted, African economies still lack proper "shock-absorbers" to withstand internal (e.g. drought, floods, and political instability) and external (e.g. volatility of commodity prices and exchange rates) shocks alike. Even at the time of writing, Africa's relatively better economic growth rates for the last few years which were fuelled by the large increases in commodity prices suddenly crashed in late 2008. For instance, oil price which surged past \$140 in early 2008 stood below \$40 per barrel at the end of 2008. This was also true for the price of copper and cobalt which were around one-third of their recent peak (Herbst and Mills, 2009). As a result, various development projects may be discontinued and economic growth in many parts of SSA may be massively slashed.

Though the recent worldwide financial crisis is partially responsible, African governments are not without blame. As Herbst and Mills (2009:2) noted, "the commodity boom produced something akin to the proverbial seven fat years for some African countries. But there was very little effort to diversify production while the going was good." Thus, this situation provides a wake-up call to SSA policy makers to re-evaluate the economic strategies and policies they have followed in the past with little achievement. Accordingly, the capacity for smoothing shocks depends mainly on the ability of African policy makers to diversify their economies. By the same token, the Economic Report on Africa (ERA) 2004 argues that a very serious improvement is required in internal conditions, especially on the supply side, if the continent is to improve its position in the international economy. Furthermore, the Economic Report on Africa (2007) presents the theme of diversification as a new paradigm for Africa's

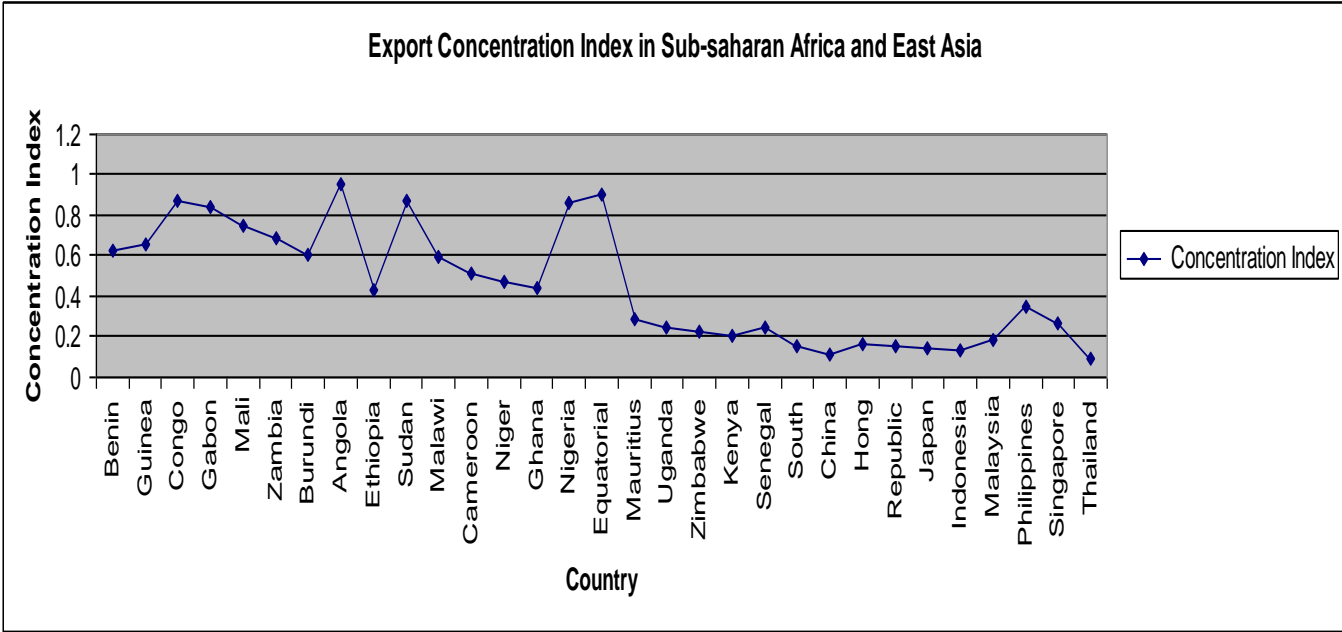
development and the report argues that diversification is a prerequisite to achieving positive development in the continent.

Table 1.9: Export Concentration index in SSA and East Asian Countries, 1995 and 2006

Sub-Saharan Africa	Concentration Index	East Asia	Concentration Index
Benin	0.623	China	0.110
Guinea	0.660	Hong Kong, China	0.159
Congo Republic	0.870	Republic of Korea	0.156
Gabon	0.837	Japan	0.147
Mali	0.747	Indonesia	0.129
Zambia	0.684	Malaysia	0.186
Burundi	0.607	Philippines	0.348
Angola	0.956	Singapore	0.271
Ethiopia	0.432	Thailand	0.095
Sudan	0.872		
Malawi	0.599		
Cameroon	0.512		
Niger	0.472		
Ghana	0.441		
Nigeria	0.857		
Equatorial Guinea	0.906		
Mauritius	0.283		
South Africa	0.156		

Source: UNCTAD Hand Book of Statistics, 2008

Figure 1.5: Export Concentration Index in SSA and East Asian Countries, 2006



In the light of these considerations, the aim in this thesis is, therefore, to thoroughly examine how and why export diversification policy plays a critical role in such situations. More specifically, this thesis is intended to examine the role of policy, institutional, and political factors on export diversification and thereby economic growth. The study assumes that lack of physical and human capital, weak physical infrastructure, and poor trade facilitation services together with other policy, political and institutional constraints have posed major impediments to export diversification, economic transformation and growth in Sub-Saharan Africa. Towards this, this study uses panel data from 41 countries from East Asia and SSA for the period 1975 to 2004. The lists of countries included in this study are shown in table 1.10 and the selection criterion was mainly the availability of complete data throughout the study period.

Table 1.10: List of Countries Included in the Study

Sub-Saharan Africa	East Asia
Benin, Burkina-Faso, Burundi, Cameroon, Central Africa Republic, Chad, Congo Democratic Republic, Congo Republic, Cote Devoir, Ethiopia, Gabon, Gambia, Ghana, Kenya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe	China, Hong Kong, Indonesia, Japan, Korea Republic, Malaysia, Philippines, Singapore, Taiwan, and Thailand.

However, from the outset it should be noted that diversification is one of the key measures for structural solution's not a panacea for SSA's deep rooted economic problems (De Ferranti et al, 2002). In line with this, the study will examine and assess export diversification based on its vertical and horizontal dimensions as defined below.

1.2. Defining Vertical and Horizontal Export Diversification

There are two well-known forms/dimensions of export diversification from the supply side that may take place in developing countries, namely, *horizontal* and *vertical* diversification. Matthee and Naude (2007) define horizontal export diversification as an increase in the number of export sectors, and vertical diversification as a shift in the composition of exports from primary to manufacturing products. Thus, horizontal diversification can be materialized through (i) a larger mix of diverse and complementary activities within agriculture; and (ii) a movement of resources from low value agriculture to high value agriculture. On the other hand, an economy is said to be vertically diversified if and only if that country starts processing and exporting value-added products from commodities that would have previously been exported in raw form. Thus, *vertical diversification* involves a radical change in export structure and export of innovative products by means of value-added ventures such as processing and marketing. Likewise, vertical diversification can also be linked to better learning

possibilities that, in turn, may produce greater dynamic externalities than horizontal diversification. In other words, through forward and backward linkages, production of a diversified export structure is also likely to provide a stimulus for the creation of new industries and expansion of existing industries elsewhere in the economy (Hirschman, 1958).

While both horizontal and vertical diversification are targeted at attaining three interrelated objective; *stabilizing earnings, expanding export revenues, and upgrading value added*; requirements for the two may vary considerably in terms of technological, managerial and marketing skills. Accordingly, vertical integration may require more advanced technology, skills and initial capital investment than horizontal diversification. Hence, significant amount of investment in human capital through education and a high rate of physical capital formation either by raising domestic savings or through FDI are pre-requisites for a country to achieve vertical diversification. Most often, vertical diversification occurs when a country starts processing commodities that were previously exported in raw form (Cramer, 1999). For-example, vertical diversification takes place by moving up the value chain to produce manufactured products as seen in Korea, China, and Malaysia. This, therefore, put into question the policy advice of some researchers such as Ownes and Wood (1997) who proposed that Africa’s emphasis should be on horizontal diversification through increasing the number of primary export products. On the other hand, horizontal diversification is achieved by producing non-traditional exports such as cut flowers that have started to be produced in Kenya, Uganda and Ethiopia to supplement or partially replace the traditional exports like coffee and tea. The goals, dimensions and forms of export diversification are clearly shown in table 1.11 below.

Table 1.11: The Goals, Dimensions and Forms of Export Diversification at Country Level

Dimension/Goal	Stability-Oriented		Growth-Oriented	
	Based on existing commodities	Add new commodities	Based on existing commodities	Add new commodities
Horizontal Diversification	Adjust export shares based on co-variation of export earnings from individual commodities	Add new commodities based on co-variation of export earnings from individual commodities.	Adjust export shares based on growth rates of export earnings from individual commodities.	Add new commodities based on growth rates of world prices and market niche.
Vertical Diversification	Adjust export shares based on a commodity’s ability to be marketed in raw or processed forms in both international and domestic markets.	Add new commodities based on their flexibility to be marketed in raw and processed forms, and to serve international and domestic markets.	Introduce or expand value-added activities and import substitution.	Choose new commodities based on value-added and import substitution potential.

Source: Ali, Alwang and Siegel (1991)

1.3. Statement of the Problems

Over the past thirty years, most developing regions, especially East Asia have diversified their exports both vertically and horizontally, and achieved very significant and dynamic structural changes in the economy. Nevertheless, SSA is not part of this transformation and most of the countries in this region have still remained dependent on export earnings from a narrow base of a few agricultural and mineral commodities for foreign exchange earnings and have had to endure the consequences of all the problems resulting from the fluctuation of commodity prices in world markets. This implies SSA economies still lack proper “shock-absorbers” to withstand internal (e.g. drought, floods, and political instability) and external (e.g. volatility of commodity prices and exchange rates) shocks alike. Thus, the capacity of smoothing shocks depends on the ability of African policy makers to diversify their economies.

1.4. Research Objectives

The overall objective of this study is first to illustrate both theoretically and empirically what factors influence vertical and horizontal export diversification across countries and over time for a panel data of 41 countries from South East Asia and SSA and assesses the trends. Next, the study will empirically examine the explicit impacts of vertical and horizontal export diversification on economic growth, and recommend which dimension of export diversification will have strong contribution to growth. The core assumption is that, the development experiences of East Asian countries are relevant for Africa today, because these countries at their early stages of development shared certain similarities with many African countries. In doing so, this study has employed a two-stage (hierarchical) system of regression models which are separately estimated. Hence, this thesis has the following four specific objectives:

- (i) It identifies the key factors explaining patterns of vertical and horizontal diversification for East Asian and SSA economies;
- (ii) It shows the nexus of relationships between export diversification and economic growth;
- (iii) It estimates the impact of vertical and horizontal export diversification on economic growth of the two regions, by taking policy, political and institutional factors into account; and
- (iv) By identifying the main determinants of export diversification and economic growth both for East Asia as well as Sub-Saharan Africa, it figures out the specific areas in which the differences occurred and how they were related to particular policy regimes and institutional arrangements, including changes in these over time.

1.5. Research Questions

Research questions derived from the above objectives are the following:

- (a) What are the main determinants of vertical and horizontal export diversification?
- (b) If diversification can have a positive impact on a country's growth and development prospects, what are the policy options available to support that process?
- (c) Although Africa is undoubtedly endowed with rich natural resources and was at a similar level of economic development to East Asia in early 1960's, it is quite evident that the region is the lowest performer among all developing regions in the world while East Asia has been the most dynamic region over the last three/four decades in achieving a high level of vertical and horizontal export diversification, and by extension, structural change in the economy. Why has Africa not diversified out of primary commodities and structurally changed its economy so as to achieve sustainable growth?
- (d) Which form of export diversification (vertical or horizontal) can more likely trigger economic growth and given priorities in Africa and why?
- (e) Within physical capital, what is the impact of domestic capital and foreign capital on export diversification and growth?
- (f) What other factors cause the growing divergence in economic growth over time and across countries in East Asia and SSA?
- (g) What is it that East Asian governments have been doing right and which those African governments are failing to accomplish?
- (h) Since countries in SSA are heterogeneous in the level of economic, political and social development, what are the levels of export diversification and growth performance of "low-income SSA" and "middle-income SSA" separately?
- (i) What are the areas in which SSA countries must pay significant attention to and draw lessons from East Asia's development paradigm especially with regard to diversification, economic transformation, and sustainable economic growth?

Thus, in order to address the above research questions, the following propositions/ assumptions have been made and tested in this study; based on the theoretical analysis and literature review presented in chapter 2, chapter 3 chapter 4, and in sub-chapter 5.1, and 6.1.

1.6. Research Hypotheses

- (a) A higher value of domestic capital and investment on education (human capital) raises the steady-state level of output per effective worker and thus they can positively and significantly induce vertical and horizontal diversification and economic growth;
- (b) FDI can increase export diversification and economic growth not only it can be used as an alternative source of capital formation but also through its effect in making domestic companies more efficient and stimulating sectoral and product diversification;
- (c) Since the levels of human capital and FDI are below the threshold level in SSA, their contribution to economic growth may not be satisfactory in SSA compared to East Asia;
- (d) While vertical and horizontal diversification are both expected to stimulate economic growth, it is however vertical export diversification which may have a more dynamic and strong spillover effect on the economy and contribute more to economic growth;
- (e) Natural resource endowment negatively affects economic diversification through the “Dutch Diseases” effect⁶;
- (f) Since the theory of “absolute convergence” and “conditional convergence” predict that poorer countries typically grow faster in income per capita to catch-up with developed countries, it is expected that ‘initial GDP/capita’ is inversely related with growth- rate;
- (g) Macroeconomic stability such as low inflation rate, openness, and a flexible and stable exchange rate system in a given country may create favorable conditions for export diversification and thereby to economic growth;
- (h) Political Instability is inversely related with export diversification and growth due to the fact that rate of saving and investment tends to be low in countries with frequent wars.

1.7. Significance of the Study

- (i) Previous studies in this field have mostly treated ‘export diversification’ in aggregate forms, but this study is expected to fill the gaps in the literature by examining diversification from its vertical and horizontal dimensions and figure out which one can contribute more to growth. Thus, this study will contribute to the enhancement of knowledge in this area;
- (ii) This study is also timely, given the increasing attention being given by African policy makers and UN agencies in their reports such as the Economic Report on Africa (2007) which presents the theme of diversification as a new paradigm for Africa’s development and claims that it is a prerequisite to achieving positive development in the continent;

⁶ The “Dutch Disease” was named after the experience of the Netherlands, where increased oil and gas revenues in the late 1950s resulted in the appreciation of the Dutch Guilder and loss of export markets and de-industrialization.

- (iii) This study decomposes physical capital into domestic and foreign capital and analyzes their separate effects on vertical and horizontal export diversification and economic growth, taking human capital and other relevant variables into consideration. This is also another approach to identify which form of capital (domestic, foreign, or both) is more important and should be given priority in the development process;
- (iv) Unlike most of the empirical studies on export diversification that used either conventional cross-sectional country growth analysis without looking at the time effects or a typical time series analysis of a single country without looking at the cross-sectional effects, this study has employs a panel data and attempts to figure out both the cross-sectional country effects as well as the time effects which may cause divergence in income per capita growth over time and across countries.

1.8. Organization of the Thesis

This thesis is divided into seven chapters, including this introduction. Chapter 2 deals with the theoretical framework for the link between export diversification and economic growth;

Chapter 3 examines fundamentals of structural change and the means and sources of economic transformation in East Asia based on perspectives of various schools of thought;

Chapter 4 highlights Sub-Saharan Africa's Economic Structure and investigates the various structural, economic, political, institutional and social factors that contribute to SSA's weak economic performance;

Chapter 5 deals with the first step of the hierarchical empirical analysis and identifies the main determinants of vertical and horizontal export diversification. Towards achieve this, research methodology and estimation techniques including a model of the factors explaining vertical and horizontal export diversification will be developed. In line with this, the data types and sources together with the empirical results and main findings will be discussed in detail;

Chapter 6 deals with the second step of the hierarchical empirical analysis and examine the explicit impact of vertical and horizontal export diversification on growth in income per capita based on panel data drawn from East Asia and SSA. In doing so, the main determinants of economic growth will be identified based on economic theory and previous empirical work. Besides this, the research methodology and the growth model will be discussed; alternative econometric estimation techniques will be employed; and ultimately the regression results and main findings will be presented.

Chapter 7 finally provides concluding remarks and highlights policy considerations and some avenues for future research.

Chapter Two

Theoretical Framework and Previous Empirical Studies on the Nexus of Relationships between Export Diversification and Economic Growth

The concept of international trade as an engine of “economic growth” and “welfare” dates back to the time of Adam Smith (1723-90). Smith, in his famous book *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), stressed the importance of trade as a vent for surplus production and as a means of widening the market, thereby improving the division of labor and raising the level of productivity (Smith, 1776). However, since openness of the 1980s, trade liberalization and outward oriented policies have become popular policy prescriptions among economies and policy makers for achieving economic growth. Parallel to the outward-orientation paradigm, another hypothesis related to structural changes in exports and increased diversification of exports has gained even greater popularity in the literature (e.g. Ali and Siegel, 1991; Amin Gutierrez de Piners and Ferrantino, 1997). Hence, the question that has to be asked is what are the theoretical reasons why export diversification is conducive to economic growth?

Firstly, the traditional argument for export diversification is based on its role in reducing export earnings instability caused by cyclical fluctuation in international commodity prices. Many countries that are dependent on commodities often suffer from export instability arising from inelastic and unstable global demand, so export diversification is one way to alleviate these particular constraints. It is worth to mention here the fundamental theoretical difference between land-based activities, such as agriculture and mining, and industrial activities on the other. According to Thirlwall (2003), land-based activities, which developing countries tend to specialize in, are subject to diminishing returns and produce goods with a *low income-elasticity of demand*, while industrial activities which developed countries tend to specialize in, are subject to increasing returns and produce goods with a *higher income elasticity of demand*. The implications of these differences are profound and go a long way to account for the differences in living standards that have arisen between developing and developed countries. On the production side, diminishing returns depresses the level and growth of productivity, and means that there is a limit to the profitable employment of labor in these activities. On the demand side, in a trading environment, a low income elasticity of demand for land-based products compared to industrial products mean that the balance of trade for the countries that produce highly concentrated land-based goods is more likely to deteriorate relative to countries trading industrial products (Thirlwall, 2003). This may implies slower growth in the poor countries relative to the rich, unless relative price changes can act as an efficient balance of payments adjustment mechanism. As a whole, primary product prices are much more cyclically volatile than industrial goods’ prices. This volatility has, therefore, a number of

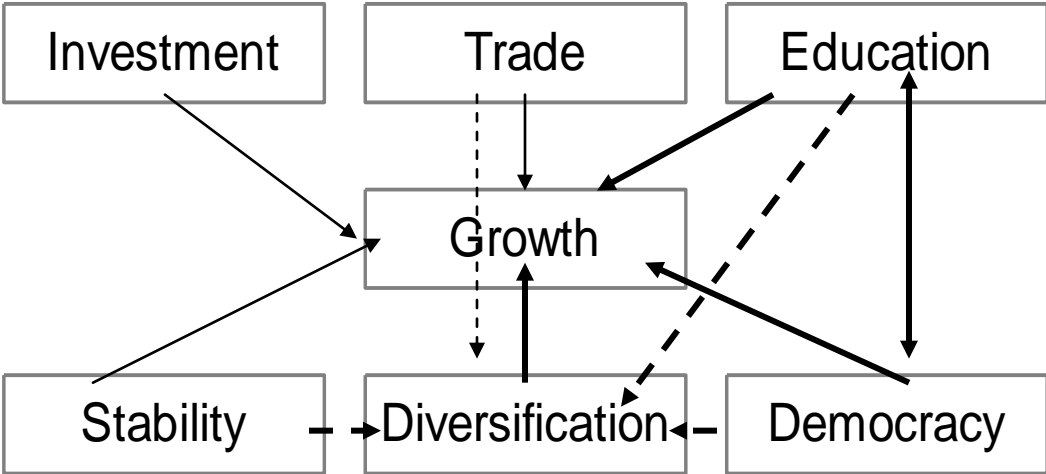
potentially detrimental consequences for an economy that concentrates only on a few primary products. Firstly, it can lead to a great deal of instability in the foreign exchange earnings and balance of payments which makes investment planning and economic management much more difficult, especially as many developing countries rely heavily on trade taxes for government revenue. Another consequence of volatility is that a collapse of commodity prices can cause severe debt service problems for developing countries that have previously borrowed heavily when prices were higher and export earnings were buoyant. Consequently, a large part of the debt problem faced by debtor countries in Africa and Latin America in the 1980s, which still lingers today, was the result of large falls in commodity prices in the 1980s compared to the 1970s. According to Thirlwall (2003), using 1975=100 as the base, the UN composite price index of 30 primary commodities stood at 166 in 1980, falling to 123 in 1982 and to 116 in 1985. With such falls, there was no way in which debtor countries could service their debts in foreign currency without a vast increase in export volume or a compression of imports. Therefore, because of its impact on domestic demand, export instability could discourage necessary investments in the economy by risk-averse firms, increase macroeconomic uncertainty, and be detrimental to longer term economic growth. Export diversification could therefore help to stabilize export earnings in the longer run (Ghosh and Ostry, 1994; Bleaney and Greenaway, 2001). With a similar line of reasoning, Love (1983) explains that the more highly concentrated a country's exports, the lower is the probability that fluctuations in one direction in some of its exports will be offset by counter fluctuations or stability in others. Hence, which has tended to be equated with the expansion of manufactured exports the need for diversification. By the same token, Labys and Lord (1990) state that export diversification offers a means by which countries can combat earnings uncertainty, when these earnings derive from a few primary commodities, and at the same time increase their revenues from investment in the production of products with market growth potential. Studies have also revealed that unstable export earnings make it difficult for a country to plan capital imports, destabilize consumption, and can adversely affect export earnings trends (Maizels, 1987). Generally, several authors have shown that in the presence of uncertainty and risk aversion, diversification would be a better policy option than specialization in many developing countries in which financial markets are imperfect and underdeveloped and where access to borrowing is limited (Turnovsky, 1974; Ruffin, 1974).

Secondly, relatively new arguments mainly derived from the endogenous growth theory are based on the fact that export diversification is beneficial not only for offsetting export earnings fluctuations, but also that export diversification has a very strong and dynamic comparative advantage. Hence, the dynamic elements of export diversification include demand and supply changes, industrial capability, risk aversion, environmental considerations, and changes in commercial policies (Ssemogerere et al., 1994). The argument on the demand side is that exporters facing autonomous factors such as rising incomes and changes in taste would push countries to diversify their exports towards more income-elastic ones. Similarly, the supply side argument emphasizes that production

structure adjustment to changes in production technology and input mix, better land utilization, the introduction of new skills, and changes in the availability of imported inputs are some of the factors that enable a country to diversify into a different mix of high-valued and competitive export products. In short, endogenous growth theory suggests that export diversification affects long-run growth with its accompanying increasing returns to scale and dynamic spillover effects as a result of new techniques of production, management, or marketing practices potentially benefiting other industries (Amin Gutierrez de Pineres and Ferrantino, 2000).

Endogenous growth models such as Matsuyama (1992) emphasize the importance of learning-by-doing in the manufacturing sector for sustained growth. Related to export diversification, there could be knowledge spillovers from new techniques of production, new management, or marketing practices, potentially benefiting other industries (Amin Gutierrez de Pineres and Ferrantino, 2000). Similarly, Agosin (2007) develops a model of export diversification and growth and finds that countries below the technological frontier widen their comparative advantage by imitating and adapting existing products. Likewise, Glyfson (2002) examines the link between physical capital (investment), human capital (investment in education), and other institutional factors with export diversification and economic growth using the following model:

Figure 2.1: Six Determinants of Growth



The model above explains that there are about six different kinds of producible capital that are needed to sustain economic growth. *First*, saving and investment are obviously necessary to build up physical capital (infrastructure). *Second*, education is needed to build up human capital. *Third*, macroeconomic stability encourages the accumulation of financial capital, i.e. financial depth, which helps lubricate the wheels of production and thus increases economic efficiency and growth. *Fourth*, increased trade with

the rest of the world helps technology transfer as well as strengthening the capital base of domestic activity. *Fifth*, increased democracy may be viewed as an investment in social capital by which is meant the infrastructural glue that hold society together and keeps it working harmoniously. *Sixth*, diversification is expected to stabilize income by expanding the possibilities to spread investment risks over a wider portfolio of economic sectors. Moreover, through forward and backward linkages, production of a diversified export structure is also likely to provide stimulus for the creation of new industries and expansion of existing industries elsewhere in the economy. Furthermore, the model indicates that factors that are good for growth are also good to stimulate export diversification.

The structural models of economic development propose that countries should diversify from primary exports into manufactured exports in order to achieve sustainable growth (Chenery, 1979; Syrquin, 1988). Similarly, the Prebisch-Singer thesis postulates that ‘vertical export diversification’ could reduce declining terms of trade for commodity-dependent countries. Al-Marhubi (2000) in a conventional cross-sectional country growth regression adds various measures of export concentration to the basic growth equation and finds that export diversification promotes economic growth, and these findings are robust for different model specifications. In a dynamic cross-country panel model, Lederman and Maloney (2007) also find evidence in support of diversification-led growth. Likewise, Amin Gutierrez de Pineres and Ferrantino (1997) and Herzer and Nowak-Lehmann (2006) examine the link between export diversification and economic growth in Chile, and their findings suggest that Chile has benefited greatly from diversifying its export base. Models in the product cycle literature (Vernon, 1966; Krugman, 1979; Grossman and Helpman, 1991) also imply a link between export diversification and growth.

Furthermore, Hausmann and Rodrik (2003), Hausmann, Hwang, and Rodrik (2006), and Hausmann and Klinger (2006) analyze the benefits of export diversification and exports in general for economic growth, both empirically and theoretically. In their framework, *economic growth is not driven by comparative advantage but by countries’ diversification of their investments into new activities*. An essential role is played by the entrepreneurial cost-discovery process. According to the model of Hausmann and Rodrik (2003), entrepreneurs face significant cost uncertainties in the production of new goods. If they succeed in developing new goods, the gains will be socialized (information spillovers) but the losses from failure end up being private. This leads to an under-provision of investments into new activities and a suboptimal level of innovation. The bottom line’ is that, according to Hausmann and Rodrik (2003), the government should play an important role in industrial growth and structural transformation by promoting entrepreneurship and creating the right incentives for entrepreneurs to invest in a new range of activities.

Hausmann, Hwang, and Rodrik (2006) develop an indicator that measures the productivity level associated with a country’s export basket. This measure is significantly positively affecting economic growth. In other words, countries that produce high-productivity goods enjoy faster growth than

countries with lower-productivity goods. The authors develop a model based on the cost-discovery process that supports their empirical findings. The key is that the transfer of resources from lower-productivity to higher productivity goods with the presence of elastic demand of these goods in export markets generates higher economic growth.

Hausmann and Klinger (2006) develop a model of structural transformation in the product space and empirically show that the speed of structural transformation depends on current export goods being closely related to other goods of more sophistication and higher value. They find that the product space is very heterogeneous, and it is desirable for a country to have a high density of product spaces based on its productive capabilities. It is often the case in many developing countries that they have specialized in exporting certain goods but are not able to transfer those assets and skills to the production of more sophisticated goods. This might be another argument for export diversification since it might allow countries to acquire skills and assets that could be relevant for goods in a nearby production space. In other words, there might be knowledge spillovers from export diversification (Amin Gutierrez de Pineres and Ferrantino, 2000). The basic thrust underlying such a hypothesis is based on “product cycle” models. In this context, innovative activity by the north (developed countries) leads to an increasing diversity of products, while *imitative* activity by the south (LDCs) leads to an increasing diversity of products being produced and exported from low-wage locations (Amin Gutierrez de Pineres and Ferrantino, 1997).

By the same token, the product life cycle theory of Vernon (1966) argued that as the result of imitative activities, the comparative advantage of many developing countries has shifted from the export of primary products to manufactured products over time. This happens because these goods go through a product life cycle. Once the product is invented, then over time it becomes more standardized as consumers and producers gain familiarity with its features. Accordingly, standardized manufacturing routines are increasingly common, using low-skilled and semi-skilled labor in assembly type operations.

Moreover, in the catching-up product cycle theory, industrial structure evolves as an economy develops, from the simplest (imported) technology to more and more sophisticated functions of the production cycle. The sequential upgrading of production technology and industrial structure is called the “flying geese” model because the industrial structure evolves in a pattern resembling the V-formation of a flock of flying geese (Kwan, 1998). This same flying geese model is typically used to describe the relationship among the economies in the East Asia region. The image captures the connections between the industrial structures of the Asian economies at different stages of development and the dynamic, sequential nature of their development. Japan leads the East Asian flock, followed by Korea and Taiwan, and then the other, later-developing economies of the region. Thus, the flying geese model depicts the latecomers replicating the development experience of the economies ahead of them. Generally, the product cycle theory emphasizes that the commercial success of consumer durables depends on product development mainly based on cost-cutting mass production and the use of known

technology, rather than on technological breakthroughs. In this case, the East Asian development experience is a good example of how late-comers can develop through *imitation*, as long as they put the necessary pre-conditions in places, such as human capital, physical capital, infrastructure, and so forth. Thus, the volume of total exports in real terms is determined by the three main factors: the world demand for exports of the given commodity, the competitiveness of the given product and the degree of export diversification of that country (Athukorala, 1991). For instance, in the 1960s, agricultural export performance was similar in Indonesia, the Philippines and Thailand, both in nominal and real value terms. But in the decades since then, the three countries have shown different performances in agricultural exports. The most important factor resulting in the differences is the ability to diversify and adjust agricultural exports when the market conditions change (Athukorala, 1991).

The development of modern portfolio theory in the field of finance by Harry Markowitz has stimulated much parallel literature devoted to applying the idea of diversification to the realm of trade. Brainard and Cooper first applied Markowitz's portfolio theory to trade, with the basic argument that an optimal export portfolio is achieved by exporting a set of products that together minimize the risk of export earnings instability, while achieving the maximum level of export earning returns. Secondly, the goods selected in each portfolio are measured in terms of return and variation in return, or risk, and then the overall portfolio is assessed. An optimal portfolio results in the highest return and lowest risk, and can be used to maximize and stabilize export earnings (Brainard and Cooper, 1968). Likewise, research has primarily focused on diversification away from primary commodities and many scholars have concluded that a portfolio optimization strategy is a valuable tool to mitigate risk and increase return (Dawe, 1996).

There are other empirical works which show how export diversification induces growth. Agosin (2005) conducted a cross country study on the effects of export diversification on growth in a group of Latin American and Asian countries and found that after controlling for other variables that affect growth, export diversification alone and in interaction with per capita export volume growth is highly significant in explaining per capita GDP growth over the 1980-2003 period. Similar empirical research findings by Sachs and Warner (1997), or more recently by Gylfason (2004) and De Ferranti et al. (2002) suggest that export concentration is indeed statistically associated with slow growth, in particular when export concentration reflects the predominance of primary products, as is usually the case. Herzer et al (2004) also found a long-run statistical association between growth and export diversification on the basis of time-series data from Chile.

By the same token, Feenstra et al (1999) evaluate the link between increased product variety and productivity using sectoral data for South Korea and Taiwan. To measure product variety they use disaggregated exports from both South Korea and Taiwan to the United States. Moreover, they consider two types of industries: primary industries, which rely heavily on natural resources and secondary industries which rely on differentiated manufactures. Finally, they find that the changes in relative

export variety across the two countries have a positive and significant effect on productivity, particularly for secondary industries.

Generally, various studies on export diversification indicate two kinds of transmission channels from export diversification to growth. The first argument is that developing countries exports tend to be concentrated on a few products, often commodities, with very volatile demand. This translates into high income instability, which in turn provokes high growth volatility. Export diversification in this setting has the advantage of creating a more stable income inflow. The second effect is associated with the dynamic benefits generated by diversifying comparative advantages in terms of the spillovers in the economy as a result of having a more diversified production structure (Hausmann and Klinger, 2007). In sum, diversification from the supply side can take place in developing countries either vertically or horizontally, but generally through both dimensions.

So far we have seen the importance of export diversification mainly on the *supply* side. However, diversification may also result endogenously from a growing *demand* for a variety of goods as a country's income increases (Imbs and Wacziarg, 2003:82). In other words, production patterns respond to changes in the structure of demand and then generate increasing sectoral diversification through the "Engel" effect. The most influential research on diversification by Imbs and Wacziarg (2003) has identified two stages of diversification in the process of economic development. First, poor countries tend to diversify as their incomes rise; then, the level of diversification reaches a turning point and later begins to become more specialized. In this case, the diversification of an economy could be related to its development level, measured by GDP per capita, through an *inverted U-shaped* relation. Therefore, a country ought to undertake investment in such a way that this turning point occurs as a result of attaining deep diversification, because, it is only after the attainment of deep diversification that countries can shift to the second stage that tends towards specialization. Thus, the stages of diversification will follow the following steps:



The two-stage diversification process has been noted both in open and closed economies from economic history. The difference between the two is that the turning point after reasonable and sustainable development has been achieved at a much earlier point for open economies compared to closed economies (Imbs and Wacziarg 2003). Similarly, Carrere et al. (2007) have studied the pattern of export diversification of 159 countries over 17 years and confirmed that re-concentration of exports after successful diversification will start above a threshold of PPP \$24,000. This implies that diversification

occurs mostly at the extensive margin⁷ for low- to middle-income countries, as new export items multiply and are marketed on increasingly large initial scales. This implies that most developing countries are actually in the diversifying stage over the course of their development path whereas almost all developed countries today are in the stage of re-concentration after successfully passing the diversification stage in the past. From a policy perspective, it thus appears as a key element of the economic development process in developing countries. In actual fact, export diversification in developing countries implies the broadening of comparative advantages into new sectors which can lead to greater efficiency allocation. Otherwise, specialization in a narrow group of exports can conceivably lead to increased instability in export earnings. Moreover, as Ray (1998) noted, “activities that have comparative advantage today might not be well suited for export earnings tomorrow.” Thus, diversification to a different mix of promising export products becomes critical to reverse a lop-sided export structure, and to lessen too much dependence upon a few primary products.

What therefore explains the two stages of diversification? According to neoclassical economic theory, when a relatively poor country starts accumulating capital and enters the *cone of diversification*, the Rybczynski effect will occur: the share of the capital-intensive aggregate should go up. This makes the aggregates shares more equal and, because the country starts producing capital-intensive goods, this should reduce industrial concentration. Another reason is related to the structure of preferences argument that if agents have non-homothetic preferences, their consumption pattern will change as income grows. These Engel effects are generally understood as implying an expanding diversity of the goods consumed. In other words, production patterns respond to changes in the structure of demand and then generate increasing sectoral diversification. According to Acemoglu and Zilibotti (1997), development goes hand in hand with the expansion of markets and with better diversification opportunities. Saint-Paul (1992) also presents a model where limited access to financial markets affects the pattern of domestic production in developing countries, and hence *sectoral diversification* is the only available means to minimize income shocks and smooth consumption. On the other hand, in the endogenous growth models, greater diversification of exports occurs through learning-by-doing and learning-by-exporting, and through imitation of developed countries (Amin Gutierrez and Ferrantino, 1997:376). By the same token, what appears to be crucial is creating an environment that creates competition and thus the acquisition of new skills, and this can be performed through exports. Without the pressure from outside competitive forces, acquisition of human capital, and thus overall economic growth, may be slow (Husted and Melvin, 2007).

⁷ An extensive margin in this particular case implies the creation of new additional export items.

Following their empirical investigation, Imbs and Wacziarg (2003) develop some theoretical arguments for countries' incentives to domestically diversify and then specialize. Reasons for economic diversification include both preference-based and portfolio arguments. First, under certain assumptions, Engel effects imply that with increasing income levels economic agents demand a larger diversity of goods for consumption. This implies that with non-homothetic preferences, the consumption and production patterns change with real income, and it is generally observed that consumers diversify their consumption as their income grows. Second, risk-averse agents often invest in projects that require a minimal investment; as a result sectoral diversification will improve with the aggregate stock of capital and income. The logic here is that by diversification, it is possible to increase the probability of success over time.

Another aspect is the role of innovation in export diversification. In principle, there is a distinction between inside-the-frontier (goods already produced elsewhere) and on-the-frontier innovations (patents). Klinger and Lederman (2006) investigate the relationship between innovation and export diversification and find that developing countries that are in the diversifying stage are mainly characterized by a higher frequency of inside-the-frontier discoveries. Conversely, further along the line of the U-shape pattern found by Imbs and Wacziarg (2003), more advanced countries that are concentrating their exports are characterized by a decreasing level of inside-the-frontier discovery activities and by substantially more on-the-frontier innovations.

It should also be asked at this juncture that *if countries get back to re-concentration, why they should need to diversify?* The point is that there is a fundamental difference between countries that are in the first stage of concentration and countries that comeback to re-concentration. The main difference is that the former specializes largely in primary products whose relative prices are falling from time to time; whereas the latter specializes in high value-added and knowledge-intensive products whose relative prices are generally rising from time to time, i.e., demand elastic export products. Theoretically, this argument can be supported by the famous "Stolper-Samuelson" specialized-factor pattern theorem as follows: (i) the more the factor is specialized, or concentrated, in the production of a product whose relative price is rising, the more this factor stands to gain from the change in the product price; (ii) the more the factor is concentrated into the production of a product whose relative price is falling, the more it stands to lose from the change in product price.

Therefore, combining the findings of new trade and endogenous growth theory suggests that the interplay of economies of scale, externalities and national or international spillovers of knowledge and technology can be crucial for the diversification experience of "late-comers". Both standard neoclassical growth theory and the more recent endogenous growth theories point out those technological differences between nations are the primary explanation of long-term growth differences as well as of wealth and income inequality around the world (Romer, 1990). Narrowing the technology divide between advanced and underdeveloped countries are thus a key element in reducing income inequality and poverty in the

world. Neoclassical theory, however, considers technology as both universally available and applicable, and explains technological differences as variations in the endowments of production factors and infrastructure (Stokke, 2004). In contrast, endogenous growth theory drops two central assumptions of the Solow model, (i) that technological change is exogenous, and (ii) that the same technological opportunities are available in all countries. It considers that technology differences and the limited capability of developing countries to absorb new knowledge are the main reasons for persistent low productivity, and therefore for poverty (Lucas, 1990).

Similarly, Markides (1995) discovered that the relationship between diversification and profitability is curvilinear. At low and medium levels of diversity there exists a positive relationship between diversification and profitability; at high levels of diversification, costs may outweigh the benefits of additional diversification. This means that a firm contemplating diversification can start from zero diversification and diversify profitably up to its optimal limit. This implies that every firm has a limit to how much it can diversify, but the optimal point differs according to a firm's resources. Hence, diversification is not a phenomenon that contradicts the notion of comparative advantage especially for developing countries. Instead, it implies the acquisition of new comparative advantages or broadening comparative advantages into new sectors. In other words, diversification should be seen as a dynamic process, not as a static one.

There are three keys to a successful industrialization and economic diversification strategy. One is to have a clear government strategy - not to be confused with direct state involvement in running industries, which we all acknowledge to be a thing of the past. It is a well-known fact that in South East Asia, governments took an active role in promoting industrialization, intervening at strategic points through regulation and incentives and mobilizing resources where appropriate. The second factor in promoting industrialization and diversification is regional integration. The third is a robust private sector response. I will elaborate briefly on the latter two issues. Diversification and industrialization require a plethora of measures at different levels. Stable and predictable macroeconomic and political and regulatory environments, as well as a fair and open international trading framework, are among the basic requirements of the development process. The question posed to the experts, however, is what specific policies and actions, apart from these basic requirements, would be necessary for the diversification and industrialization efforts of commodity dependent countries. The change that has been observed over the years in those countries that have been successful in their development efforts is that the commodity sector has undergone a deliberate and dynamic transformation and diversification.

Through the elimination of bottlenecks and the adoption of appropriate strategies at the governmental and enterprise levels, competitiveness has been enhanced and hitherto unrealized areas of comparative advantage have been identified. Production patterns have changed towards higher-valued and processed products with higher growth rates of demand, both domestically and internationally. Successful countries have been able to increase value added products drastically and, more importantly,

they have been able to plough the profits from this into investments for further development and poverty reduction. In the process, diversifying enterprises, which are important “change agents” in an economy, have positioned themselves successfully in global value chains. They have adopted modern business strategies, taken calculated risks and moved to new areas with greater vitality and profitability. When viewed from this perspective, diversification not only generates more investable resources and leads to a reduction in vulnerability to external shocks, but also entails a change in business mentality. This last element is a precondition for successful diversification and also one of the most important factors generating further development. The ability to shift production and exports from customary products to more dynamic ones without losing the expertise obtained in the former traditional sector is a crucial ingredient for breaking the vicious cycle of dependence and turning it into a virtuous cycle of dynamism and development. A stable economic environment at the macro level, a supportive international trading system and entrepreneurial drive at the micro level are prerequisites but these by themselves are not sufficient to spur the structural transformation of economies. Governments have to act in certain critical areas, and entrepreneurs have to adopt modern business strategies consciously.

Moreover, other than countries from East Asia, the experience of Sweden and Finnish developmental take-off in mid 19th century was also attributed to natural resource-based vertical diversification. According to Blostrom and Kokko (2003), Sweden and Finland are among the World’s richest and most highly developed economies today, but it is often forgotten that the Nordic region was still one of Europe’s poorest and most backward corners around the middle of the 19th century. The remarkable transformation that commenced around 1850 in Sweden and some decades later in Finland has gradually changed both countries from underdeveloped agricultural economies to advanced industrial welfare states. One of the distinguishing features of the Nordic development history is that growth was fuelled by the expansion of industries based on domestic raw materials, such as timber and iron ore. From a position as supplier of simple primary products to more advanced economies in Western Europe, Sweden and Finland were able to upgrade the technological level of their raw material based industries, and establish a foundation for a more diversified economic structure. Eventually, both countries managed to successfully diversify into related activities, such as machinery, engineering products, transport equipment, and various types of services. Thus, the Sweden and Finnish experiences suggest that development strategies based on domestic raw materials may form a solid base for sustainable development, and demonstrate some of the requirements for diversification and growth of more advanced industries (Blostrom and Kokko, 2003). Hence, this process of development is interesting not only from an historical perspective, but also from the point of view of today’s developing economies, especially for those countries in Sub-Saharan Africa in which the majority are endowed with natural resources.

While recognizing that each country has its own unique institutions and history, commodity dependent developing countries can be conceptually divided into four categories along two dimensions: level of development and opportunities for diversification within the commodity sector itself. The problems, priorities and, consequently, the development strategies differ between the four categories: The first category, which could be called “*perennial non-diversified commodity exporters*,” includes some LDCs and small island states with a large share of total exports accounted for by one or two commodities. Because of their small area and/or population and their climatic factors, these countries cannot expect to change the situation with regard to commodity production and exports. They may succeed in raising value added by increasing the degree of processing if they can attain the appropriate scale, obtain a premium for their commodities if the products that they produce are suitable in this respect, or shift out of commodity production into other activities, such as tourism, other services or manufacturing.

The second category consists mainly of larger LDCs and non-LDCs deriving a high proportion of their income from export of primary commodities, in many cases concentrated in a couple of products. They could be called “*transitory non-diversified commodity exporters*”. Several African countries fall into this category. They can potentially diversify into alternative areas of commodity production and exports, particularly high-valued agricultural commodities, benefiting from the opportunities that may be offered by international markets. Most of the discussion in the next chapter is focused on these countries.

A third category, the “*successful non-diversified commodity exporters*”, includes a number of small countries such as Botswana and Mauritius with relatively high incomes where the production of one or a few commodities plays a crucial role in their economies. They face limits to the broadening of their commodity exports for reasons similar to those countries mentioned in the first category. They also remain exposed to external shocks resulting from changed market conditions for their commodities, and, given the usually small size of their economies, such shocks can have a dramatic impact on their development.

The fourth category, “*diversified commodity exporters*”, comprises larger, medium- and high-income developing countries with relatively diversified economies but where commodity exports play an important role in the development process, particularly with respect to poverty reduction. The economies of these countries are less exposed to the vagaries of commodity markets, but the prospects for economic growth are influenced by developments with respect to demand and market access conditions for their commodities. Moreover, large segments of the population of these countries, particularly in rural areas, depend on commodity production and exports for their livelihood. Poverty reduction in these areas is often intimately linked to productivity growth in the commodities sector. This group includes mainly Asian and Latin American countries and some particularly successful African countries. Their objective would be to reinforce the positive contribution that the commodity sector has

made to development. Their experience provides useful guidelines for commodity dependent countries intending to diversify.

In sum, motivated by the desire to spread risks, raising capacity utilization and increasing total export proceeds, export diversification has been the concern of most developing countries. Despite such a concern, only a few developing countries in East and South East Asia as well as developing America (such as Brazil, Mexico, Argentina, and Chile) have actually managed to achieve a diversified export structure with greater volume of manufacturing products. On the other hand, the overall performance of Africa (except a few countries such as Mauritius, South Africa, Seychelles, Tunisia, and Botswana) in terms of export diversification has been far from satisfactory and most countries continued to be totally dependent on a few agricultural and mineral exports. The prime barriers of effective export diversification in Africa include policy distortions, poor infrastructure services, high risks and high transaction costs that inhibit competitiveness. Thus, diversification requires substantial physical and human capital (investment on education), stable and predictable macroeconomic and political environments, as well as a fair and an open trading framework.

While Funke and Ruhwedel (2001) found that export diversification is important not only for developing countries, but it is also positively related to per capita GDP and TFP growth in OECD countries, most researchers would agree that export diversification matters for economic growth and it is especially important for developing countries (Amurgo-Pacheco and P. Pierola, 2008) to attain three interrelated objectives: *stabilizing earnings*, *expanding export revenues*, and *upgrading value-added*.

Chapter Two's Conclusion

This chapter mainly deals with theoretical explanation, and in many cases, a discussion based on previous empirical work to explain the link between export diversification and economic growth in order to justify why first of all we need to study the determinants and impact of export diversification on economic growth. Moreover, the theoretical analysis of this chapter will contribute to answering some of the research questions and hypotheses we have posed in chapter (1.5) and (1.6), respectively. Furthermore, the analysis of this chapter gives a convincing explanation of how export diversification takes place both from the supply and demand side, and thereby identifying the key determinants of export diversification as discussed in chapter 5.1.

Accordingly, there are at least three main theoretical explanations for the possible impact of export diversification on economic growth. Firstly, the traditional argument is that developing countries' exports tend to be concentrated on a few products, often commodities, with very volatile demand. This translates into high income instability, which in turn provokes high growth volatility. Export diversification in this setting has the advantage of creating a more stable income inflow (See Ghosh and Ostry, 1994; Bleaney and Greenaway, 2001; Labys and Lord, 1990). Otherwise, volatility has a number

of potentially detrimental consequences for an economy including a great deal of instability in foreign exchange earnings and the balance of payments which makes investment planning and economic management much more difficult. It can also cause severe debt service problems for developing countries that have previously borrowed heavily when prices were higher and export earnings were buoyant; it could discourage necessary investments in the economy by risk-averse firms; and ultimately it discourages product and sectoral diversification, and increases macroeconomic uncertainty. Export diversification could therefore help to stabilize export earnings in the longer run and be detrimental to economic growth

Secondly, the endogenous growth theory argues that export diversification is not only beneficial for offsetting earnings fluctuations, but also is associated with the dynamic benefits generated by new comparative advantages in the economy as a result of having more diversified production structure. Thus, export diversification in developing countries implies the broadening of comparative advantages into new sectors which can lead to greater efficiency allocation. Through forward and backward linkages, production of a diversified export structure is also likely to provide stimulus for the creation of new industries and expansion of existing industries in the economy. In short, endogenous growth theory suggests that export diversification affects long-run growth with its accompanying increasing returns to scale and dynamic spillover effects as a result of new techniques of production, management, or marketing practices potentially benefiting other industries (Amin Gutierrez de Pineres and Ferrantino, 2000). This hypothesis mainly argues that vertical export diversification has more dynamic effect on economic growth as compared to horizontal export diversification in the process of economic development.

The third argument is based on the structural models of economic development, which suggests that countries should diversify vertically from primary exports into manufactured exports in order to achieve sustainable growth (Chenery, 1979; Syrquin, 1989). Through forward and backward linkages, production of a diversified export structure is also likely to provide a stimulus for the creation of new industries and expansion of existing industries elsewhere in the economy (Hirschman, 1958).

Hence, in order to identify the determinants of export diversification, it is first worthy to investigate how diversification takes place in a given country. Diversification may result either from the supply side or the demand side. The supply side argument emphasizes that production structure adjustment to changes in production technology and input mix (both physical and human capital), better land utilization, the introduction of new skills, and changes in the availability of imported inputs are some of the factors that enable a country to diversify into a different mix of high-valued and competitive export products. Moreover, there is an emerging consensus that trade policy, macroeconomic and political stability affect the level of export diversification. For instance, Dornbush et al (1977) has used the Ricardian model and predicts precisely that a reduction in trade barriers leads to an increased range of export goods. The argument on the demand side is that exporters facing autonomous factors such as

rising incomes and changes in taste would push countries to diversify their exports towards more income-elastic ones. In other words, diversification may also result endogenously from a growing *demand* for a variety of goods as a country's income increases (Imbs and Wacziarg, 2003:82).

By the same token, Glyfson (2002) examines the link between physical capital (investment), human capital (investment in education), and other institutional factors with export diversification and economic growth as shown in page 30. Hence, the model identifies physical capital (investment), human capital (investment on education), macroeconomic and political stability and a fair trading system with more openness are robust determinants of economic diversification and economic growth. This model advocates that factors that are good for economic growth are also good to stimulate export diversification. Similarly, Romer (1990) argues that diversification may be considered as an input (a production factor) that increases the productivity of the other factors of production.

In order to promote effective export diversification, therefore, governments should have a clear strategy that can play an active role: in promoting product and sectoral diversification based on value added ventures, creating stable macroeconomic and political environments in enhancing both domestic and foreign direct investment, as well as a fair and open international trading framework, intervening at strategic points through regulation and incentives and mobilizing resources to expand physical infrastructure and human capital through education are required.

Chapter Three

Fundamentals of Economic Transformation and Structural Change in East Asian Countries

3.1. Views from Different School of Thought'

Economic transformation, as a part of development, can be defined as a dynamic process through which a country's economy, society and institutions modernize and move to more developed levels. In a more realistic quest to better understand development, economists are increasingly promoting a country-specific approach for the identification of growth opportunities and constraints to prosperity (Rodrik 2003). This approach focuses on the dynamics of development, where "change is central, history matters, structures are endogenous, and learning is at the heart of the story" (Stern et al. 2005: 86). Despite the lack of a general theory, it is commonly agreed that the process of economic development is characterized by a period of rapid per capita growth combined with structural change. While structural change can be defined as an alteration in the relative importance of economic sectors, the interrelated processes of structural change that accompany economic development are jointly referred to as *economic transformation* (Syrquin 1988).

Although no single theory fully describes the transformation process, it can generally be described by several *stylized facts* that almost universally characterize the outcome of this process. These transformation patterns that can be observed in newly industrializing countries in Asia and Latin America, and also relate to the experiences of European countries during the 19th and early 20th centuries, are as follows. First, economic structure changes significantly during the transformation period, when industrialization triggers a rapid increase in the share of manufacturing in the economy and a concomitant decline in agriculture's share (Chenery 1960, Kuznets 1966, Chenery and Taylor 1968). Second, the share of the total labor force employed in the agricultural sector falls, while that in other economic sectors rises. However, that does not imply an absolute decline in the number of laborers employed in the agricultural sector, as the share of agricultural employment in the total labor force can decline relatively slowly compared with declines in the agricultural sector's GDP share in the economy (Fisher 1939, Hayami and Ruttan 1985). Third, within this process, the center of the country's economy shifts from rural areas to cities, and the degree of urbanization significantly increases (Kuznets 1966, Stern et al.2005).

Leipziger (1997) examined the public policies of East Asian tiger states and draws lessons on the effectiveness of industrial development strategies to other less developing countries such as African countries. Hence, the majority of East Asian countries, including many of those that are currently high-income countries in the region, were extremely poor and backward four decades ago. This was the shocking reality faced by early development economists, and it is against these initial conditions that the

early theoretical and policy debates took place and the transformation of many countries began. Thus, we examine the initial conditions and changes in these countries, in order to analyze how they have moved out of low-income status and what major characteristics defined their transformation processes.

At the beginning of the 1950s, the economic development level was universally low in Singapore, Hong Kong and South Korea. Their per capita GNPs were less than US \$ 100. Even worse were their shortages of natural resources and capital. Three decades passed, and they experienced fundamental changes. They raised their income standards to levels comparable with the developed countries. During the continuous and swift increase of output from 1960 to 1990, the average annual economic growth rates were as high as 8 percent in Singapore, Hong Kong, South Korea, and Taiwan of China (Chen Zongde, 2003).

During the transition from a traditional agrarian society to a modern society, the key change in economic structure is the lowering proportion of agricultural production in the national economy. Though agriculture has historically occupied a very important status in the economies of East Asia, the transition has been completed more quickly in this region than in other developing regions. In 1965, agriculture accounted for 41 percent of gross output in East Asia. This figure dropped to 22 percent in 1988. Accordingly the proportion of labor devoted to agriculture experienced a universal downsizing. Exports increased swiftly and the structure of exported items experienced changes. In 1965, countries and regions in East Asia accounted for 8 percent of world trade exports. In 1990 their share rose to 18 percent. The proportion of finished products saw a rise. Similarly, the maintenance of high deposit rates and domestic investment rates have provided the capital required for economic development. Education and vocational training rose greatly in terms of quantity and quality. Local experts and technical staff were created through education. Generally, recognizing that they had few natural resources, East Asian countries noted very early in their development that their most valuable assets were their people, and they have invested heavily in human capital to support economic development.

According to Petri (1997:545), there are at least four “deeper” explanations of the factors that caused accumulation and productivity to be strong in East Asia. These include neoclassical approaches, structuralist theories, culturist’s explanations, and the theory of the “contagion effects of successes.” Hence, it is important to briefly describe those explanations one by one as follows:

Firstly, the neoclassical approaches have mainly emphasized outward orientation and macroeconomic discipline. The modern version of this approach places more emphasis on the government’s market friendly support of investment, especially in human capital (World Bank, 1991). In this view, East Asia’s miracle economies succeeded because (i) they adopted an outward oriented trade strategy to build linkages with world markets and technology. They achieved these with policies ranging from broad liberalization to export promotion designed to offset protectionist biases favoring domestic industries; (ii) they pursued conservative macroeconomic policies to create a stable, predictable environment for investment and trade. Imbalances were addressed swiftly and decisively, keeping

inflation low, exchange rates competitive, and debt affordable; (iii) they invested vigorously in human capital to develop an educated and technically competent labor force; and (iv) they maintained competitive markets for their growing and diversifying export products in line with facilitating the structural transformation from primary production to manufacturing and eventually to knowledge-intensive industries.

Secondly, structuralist theorists have singled out government leadership in industrial policy. Structuralist interpretations of East Asian success emphasize that policy regimes in many East Asian countries departed significantly from market-oriented norms. In the structuralist view, these interventions were necessary to develop infant industries and upgrade the industrial structure. Moreover, interventions are seen as remedies for market failures in capital markets (Stiglitz, 1989) and externalities in the development of new industries (Pack and Westphal, 1986). A typical structuralist explanation has been given by Amsden (1989:14) as follows:

“Economic expansion depends on state intervention to create price distortions that direct economic activity toward greater investment. State intervention is necessary in even the most plausible cases of comparative advantage, because the chief asset of backwardness—low wages—is counterbalanced by heavy liabilities”.

Accordingly, East Asian countries have (i) targeted sectors that offered strong opportunities for growth and productivity; (ii) have directed resources into targeted sectors and (iii) avoided policy mistakes by limiting the duration of government support and setting performance-oriented criteria, such as export success, for promoted firms.

Thirdly, culturalist explanations have focused on governance and societal characteristics. This approach argues that East Asia’s cultural traditions positively affected the behavior of individual economic agents and economic organizations and methods of governance. Confucian traditions may have been responsible for East Asia’s unusually high propensity to save and educate and for its strong, publicly motivated bureaucracies. In this view, East Asian culture: (i) emphasized group over individual values, giving rise to cohesive forms of political and business organizations; (ii) developed meritocratic institutions, creating incentives for learning and education and ensuring high-quality policy making, and (iii) legitimized authoritarian rule, leading to long-lived regimes and stable, consistent policies.

Fourthly, the “contagion effects” theory suggests that the most obvious common feature of East Asian miracles is geography. It suggests that East Asian economic growth may have been shaped by regional contacts, including flows of goods, investments, technologies, aspirations, and ideas about governance. Thus, individual East Asian economies might have been successful because they developed together rather than in isolation. Consequently, the geographical proximity of East Asian countries may have: (i) encouraged the imitation of policies by exposing policy makers to successes in similar, nearby

economies; (ii) promoted the imitation of technologies and business strategies by exposing entrepreneurs to the achievements of similar, nearby companies; and (iii) facilitated direct investment and trade, particularly by smaller firms, through cultural and ethnic ties based on history and migration (Petri, 1997: 548).

By the same token, the World Bank (1994) has examined key conditions for `success` of economic management in eight East Asian countries in order to draw lessons from the Asian experiences for the other developing countries such as SSA. Classifying economic policies into fundamentals and selective interventions, the World Bank study acknowledges the prevalence of systematic government intervention (via multiple channels) to address market failures in these economies. It also notes that the success of selective intervention in East Asian countries is attributable to the rigorously pursued performance-based, yet highly transparent competitive framework, which has been pragmatic and adaptable to constantly changing internal and external circumstances.

On the other hand, the World Bank (1994) rejects the replicability and appropriateness of interventionist policies for other developing countries on two accounts. First it argues that establishing the causality between growth and a specific intervention is difficult, and hence, measuring the relative impacts of fundamentals and interventions is virtually impossible. Second, a prerequisite for pursuing contest-based resource allocation-a high quality civil service with the capacity to monitor in isolation from political interference-is typically absent in other settings. Therefore, the Bank study recommends that other countries focus on fundamentals and thereby create a market-friendly environment rather than on getting interventions to work. Its conclusion is that the fact that interventions were an element of some East Asian economies' success doesn't mean that they should be attempted everywhere, nor should they be used as an excuse to resist needed market-oriented reform.

However, the World Bank study has been severely criticized by a number of academics and researchers for failing to understand the interdependence between fundamentals and selective interventions. They noted that microeconomic basics are in reality anchored in policy formation and implementation and hence in 'micro-institutions that exhibit pervasive state interventions' (Amsden, 1994: 627). Thus, the World Bank study failed to assess seriously how the elements of the East Asian model can be adapted and suited to conditions in other countries. For this, similarities and differences in locally prevailing conditions should be analyzed in depth.

More importantly, as noted by Kwon (1994), policy measures themselves are not the sole factor determining the success or failure of policies. Indeed, given frequent institutional failures in policy implementation, the selection of sound measures may not necessarily ensure the success of policies. Equally, the differences in growth performances between East Asian economies and other regions cannot be explained only in terms of a fundamentally different set of policy choices such as export orientation or market liberalization (Woo-Cummings, 1996). The effectiveness and outcome of policies

depend on multiple factors originating from internal domestic conditions and external environments. Economic success in East Asia can be attributed to a variety of reasons including the following:

First of all, East Asian countries have adopted development strategies suited to their unique situation and kept the fundamental policies dynamic. Accordingly, the development strategies adopted in East Asia gave due attention to the country's resources, and by taking advantage of their ample labor resources, East Asian countries managed to develop labor intensive industries as a means of economic take-off. Meanwhile, they adjusted their industrial structures in the light of the changing situation so as to achieve good results in their economic development. There is an increasing recognition that development of small and medium-sized enterprise (SME)-led labor-intensive industrialization is indispensable to reduce widespread poverty and enhance fast growth in low income countries. Consequently, East Asian countries have been shy to invest in heavy industries until after they have established successful and competitive light industries and accumulated considerable physical and human capital for further progress and the shift to heavy industries. Such a type of "phase-by-phase" industrialization through has created economic systems which are characterized by effective macro policy environment and planned allocation systems for resources.

Secondly, to maintain a favorable macroeconomic environment and correct basic policies, and to vigorously put these strategies into effect compared with other developing regions, the countries and regions in East Asia have maintained more stable macroeconomic environments and controlled debt within bearable limits. Consequently they could control inflation and both domestic and foreign debts to a certain degree.

Thirdly, at the same time, they ensured the correctness of their basic policies to enhance the stable growth of agriculture production. At the start of their economic development, many countries transferred surplus resources from agriculture to industry. Such transfers were limited so that they would not suppress agricultural growth. Thus they avoided restraining the development of agriculture and also allowed agriculture to play an active role in pushing forward economic growth as a whole.

Fourthly, to establish the necessary financial systems and guarantee the smooth operation of marketing systems in East Asia, a variety of means were adopted for enhancing accumulation, and comparatively high public saving standards were maintained through tax policies and cutting down expenditures.

Fifthly, the governments in East Asian countries have an important role in strategic intervention and regulation. For instance, the formation of policies, the development of markets, the creation of a microenvironment favorable to economic development, attention to the role of private capital, the encouragement of competition, support for enterprise development, the active expansion of international markets, infrastructure services, the development of human resources, and so on, have been undertaken by the government. In the process of economic development, government intervention and market systems are combined in allocating and coordinating scarce resources in pushing forward economic

development. The question is how we measure the level of government intervention in any given country.

According to Thomas and Wang (1997:483), indicators of government interventions are categorized in two ways: measures of distortion and measures of government action. Among the distortion indicators, trade outward orientation and macroeconomic and price stability are the main measures. Hence, East Asia was more outward oriented, had a stronger record of positive real interest rates, and achieved lower inflation rates and exchange rate premiums in parallel markets. The second category of government intervention is government action. Government intervention can be measured by the share of public sector investment in GDP, government consumption, total and decomposed expenditures, and government fixed capital formation. Interestingly, the share of public investment is similar for East Asian and other developing economies, but the share of government consumption in GDP is smaller in East Asia (Thomas and Wang, 1997).

Of course, policy approaches adopted by East Asian economies were not uniform. For instance, the first generation of newly industrialized economies (NIEs) including Korea, Singapore, and Taiwan chose a good deal of state intervention, as Japan did earlier. Hong Kong was an exception for the most part; since the government in Hong Kong was noninterventionist unlike other East Asian NIEs. The primary role of government in Hong Kong was therefore to provide the public services and economic infrastructure that only the government can sensibly provide. Among the second generation of successful East Asians, Indonesia and Malaysia had little success with their early interventions, and they have turned less interventionist over the past dozen years as their economic performance has improved markedly. Other recent NIEs, like Thailand and coastal China, in many respects are avoiding interventionist industrial policies.

Here it is worthwhile to mention Japan's success and some of the main explanations associated with it. Japan took less than fifty years to emerge as a predominantly industrial society, the first outside the West (Rosovsky, 1966). Except for the severe interruption caused by World War II and its immediate aftermath, Japanese industrialization grew at a rapid pace. From the mid-1950s, Japan's rate of economic growth was one of the highest and most sustained in the history of nations, averaging, until the 1970s, close to a 10-percent gain per year in real national income. From 1954 to 1964 alone, total production per capita tripled, manufacturing output almost quadrupled, and real consumption per family grew about 50 percent (Lockwood, 1965:10). The transformation of the Japanese economy from less developed to developed status in less than three decades after World War II has been described as the "Japanese miracle."

Friedman (1988) categorizes the various explanations of Japan's success into two perspectives, the "*bureaucratic regulation thesis*" and the "*market regulation thesis*." The *bureaucratic regulation thesis* holds that the economic bureaucracy in Japan, particularly the Ministry of International Trade and industry (MITI), directed the development of Japan's high economic growth. For instance, Wade (1990)

argues that the role of government intervention was key to the success of Japan. The government intervened systematically to foster the development of specific industries in particular. Policy interventions included the targeting and subsidizing of credit to selected industries, keeping deposit rates low and maintaining ceilings on borrowing rates to increase profits and retained earnings, protecting domestic import substitutes, subsidizing declining industries, financially supporting government banks, and establishing firm and industry-specific export targets.

The *market regulation thesis*, on the other hand, propounded by economists of the neoclassical persuasion, holds that Japanese economic successes were the normal result of incentives toward profitable economic activity and was generated by the market. Japanese manufacturing grew so rapidly because industrialists were disciplined by the market and met its challenges effectively (Bawumia, 1998:30). The argument supported by the World Bank (1994) is that Japan's success, as with other East Asian countries, can be attributed to getting the basics right, with private domestic investment and rapidly growing human capital as the principal engines of growth. All in all, each of the above explanations of Japan's success has their own merits.

Though most of the East Asian economies have performed very well for the last four decades, there were also exceptions to all this. The Philippines failed to respond to the challenge, despite its rich endowment of human capital and its access to foreign aid and credit. Myanmar, Laos, North Korea, and Mongolia, for various reasons, have not done well in recent decades. On the other side, Vietnam has performed well very recently. Thus, as Leipziger and Thomas (1997:19) noted:

“Judging by its factor endowments-both natural and human factors-and by its position in East Asia in the early 1960s, the Philippines' was the best bet to succeed. Apart from resources, it boasted a unique relationship with the United States and a well-educated labor force. It had the head start on its neighbors in terms of savings, incipient manufacturing, and even some necessary institutions. Nevertheless, the country has consistently underperformed, losing ground first to the tigers, and then to the cubs.”

Much of the problem for the Philippines development can legitimately be blamed on poor policies, although political instability in the late 1980s and early 1990s contributed considerably to a lack of confidence in the country among both international investors and domestic savers. But perhaps as much to blame as faulty policy was the pervasive inefficiency and failures of governance that distinguish the Philippines from many of its successful neighboring countries.

Moreover, some commentators also point to the Philippines' deeply rooted structure of oligopoly and the sizable inequalities in income and wealth as causes for the relatively poor performance. These factors, combined with a relatively weak bureaucracy, allowed the elite to engage in rent-seeking activities at the expense of development objectives. Indeed, in the last few years, modest economic

progress has taken place, but with ground having been lost for at least three decades the Philippines still has a long way to travel to join its more successful neighbors.

Based on the preceding discussion, therefore, we can assume that a country's development prospects are mainly influenced by three sets of factors: *endowments, policies and institutions*. However, none of the initial four NIEs (Korea, Taiwan, Singapore, or Hong Kong) were endowed generously with natural resources, whereas the latter NIEs (Indonesia, Malaysia and Thailand) were richer in natural resource endowments. Thus, for the initial NIEs, the only resource was people, in the form of a relatively well-educated labor force. For these first-generation NIEs, economic development was a matter of survival and therefore of national urgency. They met the challenge by forcefully committing themselves to becoming exporters in global markets. Indeed, it has been evident that, behind the substantial country variations, there are more significant common features that policy makers elsewhere might take to heart (Leipziger and Thomas, 1997).

Hence, common to East Asia's success were policies for macroeconomic stability, human resource investments, export diversification, and an outward orientation in export strategy. According to Leipziger and Thomas (1997:3), because East Asian economies to a large extent took international prices as the ultimate guide to domestic resource allocation, macroeconomic stability was seen as central to the maintenance of competition. In addition, a number of regimes had a strong aversion to inflation. Some societies, or segments thereof, also exhibited an inclination toward human capital investments, which augmented public policy with high household investments. And it was not just the design and selection of policies; it was also implementation. By any standard, implementation of policies was East Asia's forte.

In general, it is important to emphasize two aspects of the role of the government in most successful East Asian countries' economic growth that appears to have been more important. *First*, the government has played a key role in pursuing policies to restructure economic incentives, induce greater competition, facilitate the role of markets, and maintain macroeconomic and political stability. *Second*, the government in East Asia has played a functional role in promoting economic development by establishing programs and institutions that support economic development through investments in physical and human infrastructure, facilitating export diversification mainly towards manufacturing, and building technological capability.

Generally, East Asian countries have been effective in blending the roles of market and the state. Moreover, the essential policy ingredients-avoiding serious price and trade distortions and establishing macroeconomic stability have been the key factors for generating growth in East Asia. The case in point is the experience of Thailand, a country that had many similarities with most African countries in terms of resource abundance and an agrarian economy until some two/three decades ago; but it now represents one of the fastest growing economies in East Asia with magnificent structural change and export diversification performance. The development of the Thai economy can be characterized as a

combination of agricultural growth, import substitution industrialization (in the early 1960s) and export promotion in both agriculture and manufacturing throughout the process. The main role of the government in this transformation was the provision of infrastructure and the creation of a secure and attractive private investment climate. Conservative monetary and fiscal policies maintained economic stability and, with limited modifications, dominated Thai development policy from the 1960s through the 1980s. The development of a modern industrial and agricultural sector also benefited from relative political stability, which starkly contrasted with the political uncertainty that characterized Thailand from 1932 until 1957 (Dixon 1999).

Similar to many developing countries' governments, the Thai government pursued an import substitution industrialization (ISI) strategy during its early industrialization period of the 1960s. The policies enacted to implement this strategy resemble those found in other developing countries and include tax concessions, high tariffs to protect import-competing products, and low tariffs for intermediate and capital goods used in import-substitutable production. However, unlike the ISI strategies of most other countries, Thailand did not focus on heavy industry, capital-intensive products, or direct public investment in manufacturing. Instead, the private sector played an important driving role in Thailand's industrialization. Consumer goods, including processed food and textiles, were the most important sectors in the early period of this process. Large public investments in infrastructure provided an economic base for growth acceleration in manufacturing, and the stable domestic political environment of the 1960s boosted the confidence of the private sector for encouraging investment including a large inflow of FDI. The private investment rate has always been high in the country, and it grew at around 20 – 30 percent annually in many years during the 1960s through the 1980s. There was a rapid expansion in the number of enterprises during this period, largely due to consistent government policies. For example, the government promised to refrain from nationalizing firms or establishing competing state-owned firms in sectors dominated by private firms. Moreover, the government also played a key role in facilitating industrialization by reducing transaction costs for private enterprises. For example, easing the process of hiring foreign staff and speeding up the administrative processes for the establishment of domestic and foreign firms can be seen as important interventions in Thailand that have created incentives for commercial investments (Akrasanee, 1973).

Thailand has been a prudent user of ODA, first largely from the United States and later from Japan. Thailand particularly benefited from Japanese ODA that contributed significantly to shifting Thai's economy from agricultural base into industrial base in an impressively short time. Moreover, forty years of development cooperation between Thailand and Japan has also enabled Thailand to the attainment of important goals in human resource development (Leelasorn, 2006).

In 1960, the manufacturing sector in Thailand accounted for 12.6 percent of GDP, a share similar to that in many African countries today. However, by 1970, the manufacturing sector's share of GDP in Thailand had risen to 17.1 percent (Tambunlertchai, 1993: 121). While the promotion of manufacturing

under import substitution policies in Africa has often concentrated on domestic market-oriented sectors, in the case of Thailand export-oriented manufacturing increased its market share as far back as the early 1960s, when the ISI strategy was still being implemented. Manufacturing exports were formally promoted starting in 1963. The policies to promote exports included the exemption of exporters from taxes on imported machinery, raw materials and other intermediate products, and a discount on interest rates for loans to exporters. As a consequence, the share of manufacturing in total exports rose rapidly from only 1 percent in 1960 to 5 percent in 1965 and 15.4 percent in 1970. While food processing and consumer goods shares in manufacturing production declined over time, these sectors were the main drivers of export expansion. In 1970, processed foods accounted for 26 percent of manufacturing exports, textiles for 20.3 percent, and jewelry and precious stones for 17.1 percent.

The ISI strategy had a relatively short lifespan in Thailand. At the beginning of the 1970s, the emphasis on industrial development shifted to become more export-oriented, and the various industry promotion policies increasingly focused on exports. However, as Muscat notes (1994: 216), policy and strategy adjustment tended to be extremely gradual in Thailand. Because of this, most measures caused only limited disruption and very few protests. Perhaps more importantly, this gradual approach reflects the cautious, light-handed and conservative approach to economic development and management that has generally characterized Thailand since the late 1950s. The coexistence of ISI and export promotion is just one example of this.

In the 1970s, especially in the second half of the decade, growth of manufacturing production and exports further accelerated. In 1980, the share of manufacturing in GDP rose to 22 percent, and that of manufacturing exports to 27 percent. While agro-processing and textiles continued to be the most important components of manufacturing, the higher value-added products, especially within agro-processing, started to replace simple processing activities, such as rice milling and cassava chipping. The export-oriented sector, particularly textile production, was the most rapidly growing manufacturing activity in the 1970s. Consequently, the share of textiles in manufacturing rose from 18 percent in 1970 to 24 percent in the early 1980s. The labor-intensive textile sector and a variety of other sectors created employment opportunities, stimulating rural-to-urban migration. The manufacturing-based export boom also enhanced cross-sector linkages, such as the expansion of agriculture through increased intermediate demand, the promotion of tourism and the export of labor. In 1988, the earnings from tourism and workers' remittances were equivalent to 19 percent of the income from the export of goods and services. Rapid growth in manufactured exports drew attention from foreign investors in the 1980s, especially those from Japan and newly-industrialized Asian economies. The rapid expansion of foreign direct investment after 1986 further stimulated the growth and expansion of the labor-intensive manufacturing sectors in Thailand (Muscat, 1994).

The well-planned export oriented growth strategy of Thailand thus enhanced rapid economic growth and structural change in the pattern of exports in particular and structural transformation in the

economy at large. As Hausmann and Klinger (2007) note, a country's export pattern is a good predictor of future growth. Accelerated export growth is also vital for productivity growth. For instance, a study by Haddad, et al (1996) for Morocco data accepts the hypothesis that export growth causes productivity growth and rejects causality in the opposite direction. Sjöholm (1999) for Indonesian manufacturing industries, Iscan (1998) for Mexican manufacturing industries, and Nishimizu and Robinson (1994) for Japan, Turkey, Yugoslavia and South Korea concluded that the larger the share of output that goes into exports the higher the productivity growth.

Having said this, it is worth pointing out that Thailand shares several important characteristics with many African countries, especially in the agricultural sector, that may provide a significant lesson for African countries. The first similarity is in the natural resource conditions for agricultural production. Unlike many other South and Southeast Asian countries, Thailand was a relatively land-abundant country until relatively recently (Falkus 1991: p59). Also similar to most Sub-Saharan African countries, Thailand's climate can be characterized as tropical wet and dry or "monsoonal." The second similarity relates to farm size, which is predominantly small in Thailand, as it is in most African countries today. For example, the average size of land holdings in Thailand was 3 hectares in 1960. The third similarity refers to the extensive cultivation of rain-fed crops, at least at the beginning of our study period. The rain-fed nature of Thai agriculture has been reflected in generally low levels of crop yields, compared with those found in other Asian countries. Until the early 1980s, the yields of major crops in Thailand were comparable to the crop yields seen in many African countries today.

Thailand's rise to a newly industrialized economy is a success story for development. Although the country saw rapid growth and structural transformation beginning in the late 1970s, the modernization process actually started as far back as 1958, when the pursuit of economic growth was first established as one of the primary objectives of the Thai government, and a formal development framework for planning and implementing institutions was created (Muscat 1994: p88). Between 1958 and 1988, Thailand faced external conditions broadly similar to those in many other developing countries. A series of international shocks, including the 1973–1974 and 1979–1980 oil price surges and the collapse of non-oil commodity prices in the early 1980s, hit the world economy during this period. In addition, the implementation of the World Bank/IMF-sponsored structural adjustment programs challenged many developing economies and their policy makers. With 90 percent of its commercial energy produced from imported oil and a large export share of primary products, Thailand and its economy were vulnerable to these external shocks.

Similar to the situation in many other developing countries, a series of domestic political shocks occurred in Thailand, particularly during the 1970s, when the country experienced political instability and a series of regime changes. Finally, similar to many other developing countries in their early development stages, Thailand adopted an import substitution industrialization (ISI) strategy during the

early stages of transformation, although the policies supporting this strategy were implemented over a relatively long period.

However, in contrast to many of the other developing countries which experienced the worst periods of their recent development history and severe economic crises in the late 1970s or 1980s, Thailand managed to successfully transform its economy during this period, developing from one of the world poorest countries (with a per capita income of \$100 in 1960) to a middle-income country, with a per capita income of more than \$1,000 in 1988 and close to \$4,000 in 2007. During this period, the industrial sector, particularly manufacturing, became the main pillar of the country's economy. The manufacturing share of GDP rose from 13 percent in the 1960s to 26 percent in the late 1980s and reached 35 percent in recent years. Transformation in Thailand was also a result of sustained and rapid economic growth. During the 38-year period between 1958 and 1996, the country never experienced negative growth in any single year, even in per capita terms. Thai GDP grew at an annual rate of 7.6 percent for 36 years with extremely low growth volatility. Even in the worst year (1985), when the country was hit by serious external shocks, the country's GDP still grew at a respectable rate of 4.6 percent. In the 38 years before the Asian crisis of 1997/8, Thailand experienced only three years with growth rates below 5 percent, while for more than 20 years of the remaining 33 years, growth rates were between 6 and 11 percent. Thailand is among the countries with the highest adult literacy rates in South and Southeast Asia. The nationwide provision of electricity, housing, health facilities, piped water and sanitation, particularly in rural areas, greatly improved the living conditions of the Thai people. The incidence of poverty fell dramatically, and life expectancy at birth increased from 49 years in 1960 (a level similar to that in many African countries today) to 69 years in 1990. Similarly, infant mortality decreased from 90 per thousand live births in 1965 to 27 in 1990.

Thus, transformation in East Asia involves the *modernization* of a country's economy, society and institutions. Economic transformation has a fundamental impact on human life, and sociologists emphasize the important role of changing values, norms, beliefs and customs in the transformation from a traditional to a modern society (for an overview, see Brohman 1997). Kuznets describes the necessary adjustments in society and institutions during transformation as a "controlled revolution" (Kuznets 1973: 252). Shifts in production structure lead to changes in incentive structures, educational requirements, and the relative positions of different groups in society. Urbanization leads to shifts in family formation, gender relations and personal status. Changes in transport and communication services open up less favored areas and connect factor and commodity markets. The management of these fundamental changes requires legal and institutional innovations, in which the state and other institutions play key roles (Kuznets 1973). While we acknowledge that the modernization of society and its institutions often occur concurrently with successful economic transformation, it remains difficult to integrate these changes into a single, consistent analytic framework.

3.2. Means and Sources of Economic Transformation in East Asia

Many development economists categorise the sources of transformation into different groups, but these groups are often interlinked and sometimes hard to separate. Based on a review of various development economics literatures, the means and sources of economic transformation in East Asia can be grouped into ten sub-categories as discussed below.

3.2.1. Export Diversification and Structural Change on the Economy

There is a common consensus that one of the key factors for East Asian countries success was the ability of those countries to undertake structural transformation of their economy; from producing and exporting a few primary commodities to the production and export of diversified manufacturing products within a short period of time. In doing so, East Asian governments placed a strong emphasis on an export diversification development strategy as part of their strategic intervention programs. This was practiced even in Hong Kong in which the government was noninterventionist compared to other new industrialized economies (NIEs). Accordingly, from the early days of Hong Kong's industrialization process, there were intermittent calls for the government to be more active in assisting industrial diversification. As Chen and Li (1988:137) noted, the recession of 1974-75 made such arguments more persuasive. An Advisory Committee on Diversification published its report in December 1979. It was a major landmark in the government's changing commitment to industrial development. From that date, the government did make more concerted efforts in technical training, industrial support services, and financing research and development.

Similarly, Taiwan was also successful in undertaking rapid transformation in the production of diversified products and promoting trade. Accordingly, rapid industrialization has produced a dramatic change in Taiwan's production structure, transforming it very quickly from a primary into an industrial economy. From 1960-1993, the share of agriculture in GDP has decreased continuously, from 28.5 percent in 1960 to only 3.5 percent in 1993, while industry's share conversely grew from 26.9 to 40.6 percent, rising to a peak of 47 percent in the mid-1980s. Meanwhile, the share of services has risen steadily over the same period from 44.6 to 55.9 percent. This transformation in the structure of production is reflected in the composition of Taiwanese exports: in 1960, agricultural and processed agricultural products accounted for 67 percent of the total value of exports, whereas industrial products provided only 32.3 percent. In 1993, the share of industrial products in total exports was 95.9 percent (Dahlman and Sananikone, 1997). Generally, impressive export diversification and structural transformation have been the engines of Taiwan's economic growth, providing the foundation for economic takeoff in the 1960s.

Similarly, export diversification through the promotion of infant industries was an important aspect of the Korean growth strategy. According to Ray (1998), in the early 1960s, the Korean

government identified potential industrial sectors for diversification and targeted industrial sectors such as cement, fertilizers, and petroleum refining; in the late 1960s and early 1970s, steel and petrochemicals; in the late 1970s, shipbuilding, capital and durable consumer goods, and chemicals; and, more recently, critical electronic and other component industries. Along with these, the government in Korea encouraged the development of *chaebols* or market agents such as Daewoo, Samsung, and Hyundai, large trading companies, whose activities spanned several sectors, particularly manufacturing and construction. These firms played a predominant role in strengthening Korea's export market potential and effectively were important tools for the implementation of the government's development policy at large and export diversification strategy in particular.

The next evidence of industrialization and diversification strategy comes from Malaysia. The government of Malaysia adopted a development strategy of "*resilience*." It means the ability of the economy to withstand internal and external shocks. In the case of an open economy like that of Malaysia, resilience means diversification away from the production and trade of a few commodities. This structural transformation from a lower-value-added, farm based economy to a higher-value-added, modern industrial economy (Kuznets, 1966; Chenery et al., 1985) is characterized by a decline in the share of agriculture and a corresponding rise in industry. As a result, the share of agriculture declined from more than 40 percent in 1957 to 19 percent of GDP by 1990, while the share of manufacturing rose from less than 10 percent in 1957 to about 27 percent of GDP in 1990. By the early 1990s, manufacturing exports in Malaysia accounted for about 60 percent of total exports compared with 10 percent of agricultural commodities. Structural transformation has not lessened the economy's involvement in trade. Exports increased from 56 percent of GDP in 1960 to 65 percent in 1990; the corresponding figures for imports were 44 and 65 percent (Salleh and Meyanathan, 1997).

A similar experience may be noted from Indonesia, formerly one of the poorest countries in the world. According to Bhattacharya and Pangestu (1997), Indonesia's per capita income in 1967 was only US \$50, about half that of Bangladesh, Nepal and Nigeria. Poverty was widespread; estimates suggest that, in 1970, 60 percent of the population (or 70 million people) were living in absolute poverty. Since then, Indonesia has undergone substantial structural change and manufactured exports rose from only 12 percent of total exports in 1985 to 45 percent in 1991, surpassing both oil and primary commodities. Moreover, it achieved GDP growth of almost 7 percent per annum in 1965-90, far above the average for low and middle income developing countries and comparable to other East Asian economies.

Similarly, the process of export diversification and structural change between and within agriculture and industry in Thailand was a relatively smooth process with stable long-term economic growth. It was led by agriculture in its early years, and was then carried on by large private investments that led to the expansion and growth of export-led manufacturing. This labor-intensive, low technology manufacturing-led growth with strong linkages to agriculture and external markets has become characteristic of Thai industrialization. While the domestic market constituted the primary target of

industrial development, export-oriented manufacturing, including textile fabrication and food processing, played a primary role throughout the transformation process. The government supported economic development mainly through the provision of infrastructure and the creation of a secure and attractive environment for the private sector. Government interventions have aimed at reducing transaction costs and improving institutional efficiency, which greatly augmented the private sector's incentive to establish and expand businesses, and thereby sectoral diversification. The comparatively stable political and policy environment in Thailand over these 30 years can be regarded as one of the most attractive conditions for private businesses, and created long-term confidence in the country. The country's conservative monetary and fiscal policies further helped maintain economic stability. The sustained long-term growth in Thailand is also a consequence of non-disruptive policy adjustments throughout the transformation period. Thai policy adjustments can be regarded as extremely gradual (Muscat 1994), reflecting the cautious, light-handed and conservative attitude to economic development that generally characterized Thailand during these 30 years.

The Philippines however is the major outlier in economic performance in general and export diversification in particular of all the East Asian countries. Dependence on agriculture has been a major constraint on economic performance. During the 1980s, the terms of trade moved sharply against agriculture, largely as a result of international price developments. Moreover, long periods of natural resource exploitation, which kept growth going through the 1970s, came to a halt. Depletion of forests, fisheries, and soil resources increasingly dimmed growth after the 1980s. As a result, during the 1980s, the Philippines economic performance has been the slowest growing market economy in the region. This performance gap widened significantly per capita growth in the Philippines turned negative while that in neighboring countries accelerated. The economy became progressively de-industrialized and de-capitalized over this period, which was marked by political as well as economic instability. The share of labor in low-productivity agricultural occupations declined slightly between 1970 and 1990, by about 10 percentage points, but there was only a 1 percentage point increase in industrial wage labor. The rest moved into the informal service sector. By contrast, in Korea and Malaysia, both the decline in self-employed agricultural workers and the increase in industrial wage labor were substantially higher over a comparable period (Kharas, 1997).

All in all, the majority of East Asian countries have seen tremendous successes in diversification and structural change in their economies. Apart from their diversification efforts, East Asian countries, perhaps except for the Philippines, did very well in economic fundamentals: the governments pursued sound macroeconomic management, invested in infrastructure and human resources, and supported an outward-oriented private sector.

3.2.2. Technology-led Productivity Growth

Productivity growth characterizes the process of transformation and the move from a traditional to modern economy. Advancing innovation and technology adoption is therefore a “permissive” source, i.e. a necessary condition for development (Kuznets 1973: p247). Entrepreneurship and human capital play an important role in this process. Schumpeter points out that entrepreneur are important drivers of development, through a process of “creative destruction” (Schumpeter 1947). Technology-led, rapid productivity growth typically occurs during the industrialization process; hence, early development theorists discussed this process mostly in the context of industrialization. Less emphasis has been given to the transformation of agriculture through productivity growth during economic transformation.

Lewis’ dual economy theory was the first seminal contribution to understanding how technology-led productivity growth in the industrial sector leads to economic transformation (Lewis 1954). Observations on the streets of Bangkok inspired Lewis to hypothesize the existence of a large traditional sector in which “the marginal productivity of labor is negligible, zero or even negative” in many low income developing countries (Lewis 1954:p140, Lewis 1979). The difference between a leading modern sector (often the industrial sector) with higher productivity and a lagging traditional sector (often the agricultural sector) with lower productivity, combined with an unlimited supply of labor from this traditional sector (which keeps economy-wide wages down), allows production to grow in the economy through the migration of labor from the traditional sector to the modern sector. Led by productivity growth in the modern sector, the dual economy will gradually and eventually converge to a single economy with equalization in the economy-wide marginal productivity of labor and full employment. Ranis and Fei further extend the dual economy theory and point out the possible negative implications of agriculture’s role in economy-wide growth within this model (Ranis and Fei, 1961). According to the zero marginal productivity assumption, labor migration out of the traditional agricultural sector should not negatively affect agricultural production. However, Ranis and Fei identify two turning points at which the withdrawal of labor affects agricultural output. They argue that if the withdrawal of labor causes food supplies to decline, or the marginal productivity of labor in agriculture to rise to levels that are equal to the marginal productivity in the modern sector, then growth in agriculture can constrain growth in the modern sector (Ranis and Fei, 1961).

Schultz (1964) was among the first economists to emphasize that productivity-led agricultural transformation can make a much more important contribution to economy-wide transformation than merely providing surplus labor and savings to support industrialization. According to Schultz “efficient but poor” hypothesis, farmers should be seen as entrepreneurs even within traditional agricultural systems. The low marginal productivity seen in agriculture before transformation is due to the fact that factors employed in agriculture are traditional. Incentives for farmers to invest in these traditional factors are low unless farmers have the opportunity and incentive to transform the traditional agriculture of their “forefathers.” In Schultz’ view, the capability of farmers to adopt modern technologies can make

agriculture an important driver of growth. Jorgenson also disagrees with the assumption of zero marginal productivity in agriculture. He emphasizes the role of agricultural productivity growth, stating that “unless technological progress in agriculture is sufficiently rapid to outpace the growth of population and the force of diminishing returns in land and other factors, the industrial sector may not become economically viable” (Jorgenson 1961).

In a similar vein, Kuznets emphasizes the potential of agriculture in transformation. He finds that since agricultural growth is higher during periods of transformation compared to pre-transformation levels, the industrial revolution is, in fact, always accompanied by an agricultural revolution (Kuznets 1966). In further examining the role of agriculture for growth, Irz and Roe (2005) find that agriculture has been the engine of growth in most developing countries, i.e. causality runs from agricultural growth to economy-wide growth in most cases. This implies that even small variations in agricultural productivity have had strong implications for the rate and pattern of economy-wide growth. The authors, hence, conclude that low agricultural productivity can severely constrain overall growth.

3.2.3. Rapid Capital Accumulation

Technology-led productivity growth is typically accompanied by rapid *capital accumulation*, as most technologies are embodied in modern capital goods. Early development economists in the 1950s and 1960s emphasized the role of capital investment in industry as a means for rapid growth and transformation in low-income countries (Chenery 1960, Kuznets 1961, Rosenstein-Rodan 1964). This view is supported by the successful reconstruction in post-World War II Europe, where investments in infrastructure and industry were an important component of rapid economic recovery and growth (Krueger 1988). Several empirical studies have confirmed the important role of capital accumulation in rapid growth, showing that the share of investment in GDP increases significantly during the transformation process (Kuznets 1961, 1966; Syrquin and Chenery 1986). To finance these investments (and subsequent industrialization), early development economists paid special attention to increasing a country’s saving rate.

Against this background, the dual economy model treated the agricultural sector as a surplus provider to finance the process of industrialization. This rationale served as a major argument for developmental planners to introduce agricultural export taxes, high tariff protection in industry and other measures (e.g. overvalued exchange rates) aimed at transferring resources from agriculture to industry (Krueger et al. 1991). However, Kuznets pointed out that “one of the crucial problems of modern economic growth is how to extract from the product of agriculture a surplus for the financing of capital formation necessary for industrial growth without at the same time blighting the growth of agriculture” (Kuznets 1961: p115). Unfortunately, the governments of many developing countries, especially those in Africa and Latin America, did not manage this well; the transfers from agriculture to industry often hurt growth in agriculture, particularly under the urban-biased growth strategies of the 1970s to 1990s.

Schultz argued that the accumulation of capital is a necessary but not sufficient condition for transformation, especially in the case of agriculture (Schultz 1964).

3.2.4. The Role of Linkages

While productivity growth and capital accumulation are important elements of transformation, together with changes in consumer demand (which are not discussed in detail here), they also further enhance economic inter-linkages during the transformation process. Hirschman (1958) was among the first development theorists to emphasize the backward and forward linkages created by capital investments in the industrial sector. Johnston and Mellor (1961) thereafter extended this concept by going beyond the industrial sector and explicitly emphasizing the interaction between the agricultural and non-agricultural sectors. In this view, agriculture should not be seen merely as a source of surplus to support industrialization, but as a dynamic source of growth, employment and more equal income distribution. While the share of agriculture in the economy will decline over the longer run as transformation progresses, successful agricultural development in the short- and medium-run is a prerequisite for transformation (Meier 1989). Since inter-sectoral relations between agriculture and non-agriculture will likely determine the course of transformation in many developing countries, transforming agriculture requires increased efficiency and modernization across the whole economy (Hayami and Ruttan 1985).

For instance, according to Muscat (1994:218), linkage effects as a result of increased income growth and consumer demand in urban areas accelerated economic transformation in Thailand, and consequently shifted demand to manufactured goods, services, and housing, which stimulated rapid growth in the financial services, property, construction, transport, and retailing and telecommunication sectors. This growing demand further expanded domestic investment. For example, gross domestic investment as a percentage of GDP ranged between 22 and 26 percent throughout most of the 1980s, rose to more than 30 percent by the end of 1980s, and hit a peak of 40 percent in 1991.

3.2.5. Small and Medium Scale Enterprise (SME) Development

Traditional inward looking development policies (e.g., Prebisch, 1959) used import substitution and industrial policy to induce diversification into non-traditional goods. In line with the increasing relevance of outward-looking policies, it has recently been suggested that more effective trade preferences covering non-traditional exports might be part of the answer (Collier and Venables, 2007). An alternative approach recently suggested by Rodrik (2004) includes a type of “new age” industrial policy, emphasizing the provision of public goods and measures to facilitate innovation and entrepreneurship. Accordingly, it is a well-established fact that SMEs are engines of innovation, entrepreneurship, and economic growth in many developing countries. This was particularly evident in many fast growing East Asian countries where SMEs have played crucial roles in creating jobs,

competitiveness, export stability and growth. Therefore the following sub-section addresses the importance of SMEs from an export diversification standpoint.

Small and medium-scale enterprises (SMEs) foster economic diversification. The experience of some East Asian countries such as Taiwan, Hong Kong and Thailand show that SMEs can also play a significant role in transforming the traditional economy into a more value-added and productive economy via vertical diversification. For example, the issue of diversification in Taiwan is conditioned by two key features of the firms that make up its manufacturing sector: an industrial structure based predominantly on small firms, and an outward-oriented trade regime. In 1986, for instance, these firms were responsible for 28.2 percent of total manufacturing output, 40.7 percent of overall manufacturing employment, and comprise of almost 95 percent of the total number of Taiwanese manufacturing firms. The predominance of SMEs has an important effect on the local capacity to undertake R&D activities (Bee-Yan Awa and Geeta Batrab, 1998).

In Hong Kong and Taiwan, the most dynamic parts of the economy were SMEs which, for example, produced over 6 per cent of Taiwan's exports during the 1980s. These SMEs contributed to the development of highly entrepreneurial strategies, termed "guerrilla capitalism" by Danny Lam (1992). Guerrilla capitalism includes extreme flexibility in rapidly filling even small orders, attention to quality and design, audacious bidding, participation in complex networks of subcontracting, and enhancing international laws such as those regarding intellectual property rights (Fields, 1995; Kuo, 1995). Similarly, many textile and clothing products imported by the EU, US and other developed countries today originate from Chinese villages, and some are even produced in farmers' houses. Similarly, the cradle of Thailand's Christmas gift industry can quite adequately be found in rural Thailand.

Rodriguez and Berry (2002) argue that SMEs enjoy greater flexibility than large firms. This was especially important in industries and economies that face rapidly changing market conditions, such as the sharp economic downturn that Southeast Asia faced during the 1997 financial crisis. Being more flexible, SMEs are being increasingly viewed as sources of innovation and agents of change. Thus, these are contributing to the development of new technology, and the improvement of skills of workers, as well as the development of new products and processes (Intal, 2002). The evidence further suggests that a substantial part of SME exports originate from *clusters* for small enterprises. According to Yamawaki (2002), the most four important benefits from clusters by small firms are: (i) specialization; (ii) ease of procurement; (iii) diffusion of technology, and (iv) public policy support.

Vibrant SMEs could also serve as a foundation for a strong and competitive industrial sector as was the case of the newly industrialized countries of East Asia that have relied on dynamic SMEs to boost their competitiveness. SMEs have a vital role in the development of rural areas as they disperse economic activities to the countryside, and hence contribute to a more equitable distribution of income. For instance, in Hong Kong, under a system of nonintervention and free enterprise, entrepreneurial activities have been the key agents that translate positive pre-conditions and opportunities into success.

The growth process of Hong Kong involved a large number of entrepreneurs running a myriad of large and small businesses in all sectors of the economy. Similarly, in Thailand, a whole new development model has centered on SMEs playing a leading role in diversifying the economy and bringing structural and economic changes and consequently an economic growth rate of about 8% for several years (Looney, 2004).

The *income inequality-dampening hypothesis* explains that SMEs are more labor intensive than large enterprises and have narrower wage differentials between workers. Wages are also distributed more equally than profits, rent, and other components of national income. Hence, since the SME sector expands relative to the large enterprise sector of the economy, *ceteris paribus*, (1) the share of labor in national income should rise, (2) inequality among wage earners should decrease, and (3) overall income inequality should decrease (Nugent and Yhee, 2002). Similarly, Hill (1995) explains that government policy in East Asia is of high importance for the growth potential of the SME sector. The extent of concessionary finance, investment incentives, tariff structures, government subsidies and so on determine the importance attached to sub-contracting and the opportunities for small firms to find viable market opportunities. Hill adds that the relative under-development of the SME sector in Indonesia compared with neighboring countries is explained partly by differences in industrial policies. According to Hill (2002), SMEs in East Asia generate about 30% of exports in the region. SME exports range from 5% or less in Indonesia to around 40% in Korea. Part of this growth is related to foreign direct investment. Hill notes that Korean, Japanese and Taiwanese SMEs contribute most to foreign direct SME investment in the region and their contribution has increased in recent years. Accordingly, it is not surprising to find countries like Indonesia that have the lowest SME contribution to their economies have at the same time the least FDI contribution to the economy, especially in recent years, as shown in table 3.1.

Table 3.1: The Ratio of FDI to GDP in East Asia (in %)

FDI/GDP	Period				
	71-80	81-90	91-2000	91-97	98-2001
China	N/A	0.6	4.1	4.2	4.0
Hong Kong	N/A	N/A	20.9	N/A	19.2
Korea	0.2	0.3	0.8	0.3	1.7
Singapore	6.4	10.5	9.5	10.3	7.8
Indonesia	N/A	0.4	0.7	1.7	-1.8
Malaysia	3.7	3.4	5.7	6.4	4.0
Thailand	0.4	1.2	2.6	1.6	4.4
Philippines	0.4	0.7	1.8	1.7	2.1

Source: Sandee and Wengel (2004)

In addition to their contribution to export growth, SMEs' contributions to employment in East Asia are also well-documented. According to Harvie and Lee (2002:7), SMEs play a larger structural role in Taiwan, China, Japan, Thailand and Vietnam where they contribute over 70% of employment, than they do in Indonesia or Malaysia where they contribute only around 40%. Similarly, the dynamic role that SMEs play varies widely. For example in Singapore, even though SMEs are not as significant in terms of numbers and employment, they are important in providing a flexible skilled production base that attracts larger multinational corporations (MNCs).

A common definition of SMEs is based on the number of employees. According to the World Bank's SME department (Hallberg, 2001), the lower limit for small-scale enterprises is normally between 5 and 10 workers and the upper limit is between 50 and 100 workers. Meanwhile, the upper limit of medium-scale enterprises is between 100 and 250 employees. Hence, while SMEs tends to appear smaller in Indonesia and the Philippines, countries such as Japan, Korea, Hong Kong and China have almost half of the manufacturing labor force in enterprises with 10 to 100 workers, and Malaysia and Singapore show an intermediary stage with one-third of the labor force in SMEs (Rodriguez, 2002).

SMEs also play an important role as sub-contractors. Accordingly, most large firms in Japan depend on SMEs for the supply of parts and components. It is well known that the competitiveness of Japanese automobile, electronics, and other machinery production comes from an efficient sub-contracting system involving SMEs (Kawai and Urata, 2002). Being flexible and versatile, SMEs can adjust to changing business environments better than large firms. The experience of Korea confirms that SMEs serve as shock absorbers, without which business cycles would be more serious, and without which necessary structural adjustments would not have been made (Nugent and Yhee, 2002). In many cases, it is SMEs that enter new markets first, and some of them become large as a result of successful operation. Generally, the experience of East Asia indicates that the development of SMEs has contributed to the expansion and diversification of markets as well as to increasing the savings rate and investment base. On the other hand, SMEs still constitute the "missing middle" of African economies and hence African countries have a long way to go to catch up with other developing regions with respect to benefiting from the impact of industrial diversification through SMEs.

3.2.6. Strong Support to Private Sector Development

While manufacturing has been regarded as the main driver of transformation both in early development theory and in practice, growth in manufacturing and services must be led by the private sector and supported by government policies and public investments. Improving the physical and institutional environment is critical to providing incentives for the private sector to do business and create competition. Winner-picking industrialization strategies and related policies may help create a large industrial sector, but this sector often fails to establish close links with the rest of the economy.

Moreover, the creation of this sector comes at high direct and indirect costs, especially with regard to agricultural transformation.

On the other hand, private sector-led manufacturing and service sector growth, which is more “home-grown” in nature (i.e. it starts from a realistic base), is likely to be more consistent with a country’s initial conditions and comparative advantage in exports; hence, it can lead to broad-based growth. This type of transformation was seen in Thailand in the 1960s and 1970s and in China in the 1980s, during the early periods of sustained rapid growth in these countries. Moreover, this industrialization path is often more labor-intensive and usually creates strong linkages with the rest of the economy, particularly with agriculture, by using agricultural materials as inputs. In fact, manufacturing often develops in rural areas as rural non-farm activities, and the creation of rural manufacturing has often played an important role in poverty reduction and rural transformation.

While a home-grown manufacturing sector was a key driver in the transformations of many Asian countries, including Thailand, it also became a leading export sector in some cases. “Home-grown” does not imply an inward-orientation and a bias against foreign direct investment, but rather is consistent with a country’s existing comparative advantage and therefore has great potential to become export-oriented (more so perhaps than sectors created by import substitution policies). With additional economic policies designed to attract foreign direct investment, home-grown manufacturing can draw in more foreign capital, technology, and knowledge, which can then spark rapid growth and make the sector internationally competitive. Thailand’s experience shows that reaching international competitiveness in manufacturing relates closely to the way a country explores its comparative advantage at different development stages. At the initial stage of transformation, less capital-intensive manufacturing sectors are usually more competitive; as they do not necessarily operate at the technological frontier. However, even at this stage, public investments in infrastructure and improvements of the institutional environment for doing business are critical. A more productive labor force, a large portion of which comes from rural areas, together with internationally competitive wage rates, also seems to be important for success.

Generally, economic performance is a function of actions undertaken by agents of economic activities, most importantly private firms. Private firms’ performance can be best measured by competitive advantage, as opposed to comparative advantage (Porter, 1990). Porter argues that the competitive advantage of a nation is a function of multiple factors: supply-side factors, demand-side conditions, corporate structure and strategy, the nature of related industries, and the role of the government.

3.2.7. Foreign Direct Investment (FDI)

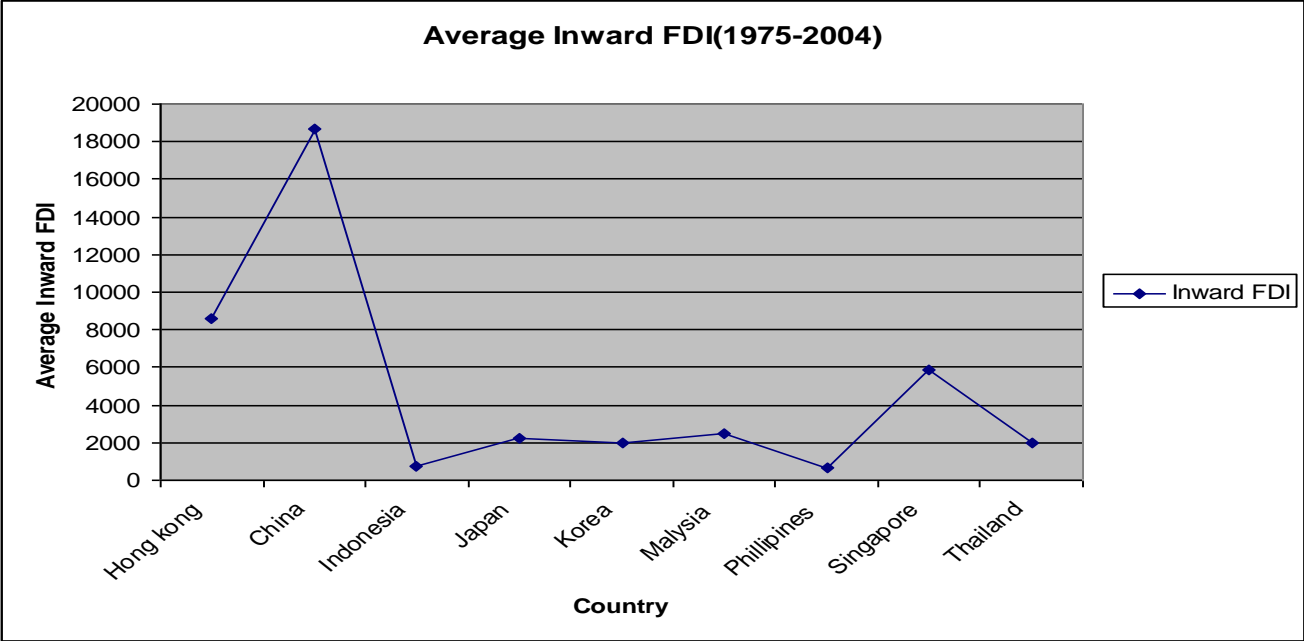
Globally, FDI has increased dramatically over the past two decades. However, most of this increase has occurred in the industrial countries. In the developing world, FDI has been heavily concentrated among a small number of countries; over 90% of FDI inflows to developing countries in 1990 were received by only 18 countries. Half of these total flowed to eight East Asian developing countries-Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand. From 1990 onwards, however, other developing countries, especially China and India, have become major FDI destinations in the world. Though the explicit investment incentive packages have significantly contributed to FDI inflows in most of the East Asian countries, a much more important determinant in those countries has been their superlative investment climates (Fry, 1991). On the other hand, the experiences of emerging economies, especially FDI-driven economies in East Asia, confirm that FDI and domestic investment are, in fact, complementary. For instance, FDI would play a complementary role with domestic investment by working together with local firms in the form of 'joint ventures.' Moreover, firms in different countries can form strategic alliances in the form of *international joint ventures (JVs)*. The first reason for an investment to be carried out jointly by more than one firm is when the cost of the project is enormous. Using joint venture investment, therefore, it is much easier to share costs and complement the managerial skills gap that is always absent in many developing countries. The second and more important reason for the formation of international JVs is due to restrictions on foreign ownership of local firms and other kinds of trade barriers. According to Japan's Ministry of International Trade and Industry (MITI 1994), nearly 70 % of Japanese FDI in manufacturing in other Asian countries is in the form of JVs, probably due to legal limits on local ownership by foreign firms.

The East Asian experience shows that foreign investment should be carefully regulated by host country governments so as to be used effectively for the objectives of economic development. For this regard, government policies can mitigate some of the potentially negative effects of FDI. For instance, an appropriate regulatory framework is crucial for guiding successful private participation in infrastructure. Similarly, environmental policy is equally desirable, particularly in countries with fragile ecosystems or sizable resource extraction activities. Labor laws and health and safety standards can ensure decent work conditions. These measures are part of the general standards that apply to all enterprises and are consistent with non-discrimination and treatment principles that most countries accord to foreign investors.

As already noted from figure 3.1 below, East Asian countries have been successful in becoming the top destination for FDI in the world. However, within East Asia itself, China which had virtually no foreign investment in the 1970s, has now become a major host for FDI and outperforms other countries

in East Asia led by Singapore. Therefore, East Asian countries in general and China in particular are a startling example of how countries can rise from poverty within a generation and become dominant players on the global scene.

Figure 3.1: Average Inward FDI in East Asia, 1975-2004



In line with this, it is important to note that FDI can be either export-oriented or local-market-oriented. Accordingly, the success story of East Asian Nations is mainly in attracting export-oriented FDI. Governments in those nations were active in providing preferential treatments to export-oriented FDI. Although export-oriented FDI is more responsive to preferential tax treatment, FDI that is aimed at the local market is more responsive to policies on market access and policies that affect domestic demand (OECD, 1992). For instance, at an early stage after the Second World War, the Japanese government took various measures to promote export-oriented FDI. For example, it provided various tax exemptions and larger allowances for depreciation for export-related industries. The government channeled the necessary funds for these industries through government financial institutions with interest rates lower than the market rate. By the same token, foreign capital in the form of FDI flow can be acquired in either in the form of green field investment (establishing completely new investment) or acquisition investment (buying existing investment mainly through privatization).

3.2.8. Developmental State, Institutions and Markets

In the words of Moon and Prasad (1999:9), “the developmental state paradigm has emerged as an innovative theoretical alternative by elucidating the casual nexus between political institutions and economic performance, which has been neglected in previous studies of economic growth and development.” Accordingly, East Asia’s remarkable economic success over the past three/four decades has bred a powerful new paradigm in the field of development economics and comparative political economy, centering on the concept of the developmental state. This paradigm attributes the impressive economic performance by Japan and the East Asian newly industrializing countries (NICs) to the choice of efficient, coherent, and flexible economic policies and their effective implementation (Moon and Prasad, 1998). It was evident that the state played a leading role in promoting industrialization in “late developing” nations and that the East Asian “economic miracles” vindicate strong state intervention and leadership in the economy (Amsden, 1989; Evans et al., 1985; Wade, 1990).

The developmental state paradigm is composed of a collection of theories, descriptions, and assertions which relate economic performance to institutional arrangements centered on the state. According to Moon and Prasad (1998), the developmental state paradigm is woven around three interrelated observations. First, the East Asian states place top priority on economic development operationalized in terms of growth, productivity, and competitiveness. Second, in order to achieve these broadly defined goals and preferences, the states actively intervene in the market to guide, discipline, and coordinate the private sector through the strategic allocation of resources and the use of diverse policy instruments. Finally, strategic intervention by the state and its success are ensured by rational and competent bureaucrats who are insulated from political and social pressures. Contrary to neoclassical projections, the insulated, interventionist states have been relatively free from predation and rent-seeking. Trust and close cooperation between the state and the private sector, and the prevailing consensus on corporate goals, both of which result from a homogenous social fabric and Confucian culture, have minimized the risk of opportunism by individual utility-maximizing actors (Amsden, 1989; Evans, 1995; Haggard, 1990).

Indeed, the developmental state paradigm has offered a powerful analytical and empirical ground to challenge the pre-eminent position of the neoclassical account of economic development and growth by demonstrating that correcting market failures is not enough. Strategic intervention by the government does not necessarily lead to failure. Moreover, the developmental state paradigm has provided a solid empirical foundation for refuting the fatalism of the *Dependencia School*. In other words, integration into the international capitalist division of labor does not always produce a structure of dependency sustaining the development of underdevelopment. Depending on state structure and state strategies, there can be several “pathways from the periphery” (Haggard, 1990). Additionally, the developmental state paradigm has facilitated the revival of theoretical and empirical interest in institutionalist thought.

By releasing the analysis of economic performance from the monopolistic grip of economists, it has restored the importance and relevance of political institutions (Steinmo et al., 1992).

Furthermore, the developmental state theorists argue that a free market, if it ever existed, may be most appropriate for advanced industrialized countries where capital and labor markets are efficient. It is less suitable for late developers, which wish to resolve all developmental problems in a short period of time. The purpose of state intervention is not only to create pockets of free market in order to encourage production efficiency, but also to construct a “guided capital market” (White, 1988, p.3) or a “governed market” (Wade, 1990, p. 26) in order to create market niches in a competitive world. Similarly, Amsden (1989) states that sometimes the developmental state needs to deliberately set “prices wrong” for long-term developmental goals. Hence, a typical developmental state promotes industrial adjustment, discourages speculative investments, creates new industries, transfers technology to the private sector, protects infant industries, searches for information about world market conditions for domestic producers, deters foreign exploitation of the local market, reduces the welfare system in order to reduce labor costs, and provides assistance to private enterprises according to their performance (Appelbaum and Henderson, 1992:21-2).

Institutional change in general and market development in particular are necessary parts of transformation. As stated by Matthews (1986), the choice of marketing strategy and type of appropriate institutions may affect both institutional change and market development, albeit in opposite directions. Most economists agree that the quality of institutions can explain differences in growth and transformation processes by shaping incentives to develop new technologies and innovation (Rodrik et al. 2004, Easterly and Levine 2003). Micro-economic institutions involving property ownership, industrial organization (e.g., contracting, competition, firm structure) and other types of regulation not only set rules of economic exchange, but also condition economic performance by shaping the nature of economic exchange relations and thereby affecting transaction costs (Gourevitch, 1993; North, 1990). Strategic allocation of resources to targeted sectors in Japan and South Korea could not have ensured successful performance without the corresponding micro-economic institutions such as lax anti-trust regulations that permit concentrated market structure, extensive vertical connections, and formal and tacit coordination among firms (Hart, 1992; Okimoto, 1989). Economic institutions are a necessary, but insufficient, condition for the explanation of policy choice and performance. Between micro-economic institutions, policy choice, and performance lies real politics. It is through politics that economic institutions are altered, specific policy choices are made, and performance is subsequently affected (Moon and Prasad, 1998). Generally, institutions shape not only political and economic behavior, but also human cognition.

To finance state-led industrial development, governments often discriminated against agriculture. Overvalued exchange rates, high import duties on intermediates and capital goods, and heavy taxation of agricultural exports all undermined the role of sectors that would otherwise have had comparative

advantages for leading growth and structural change (Krueger et al., 1991). Within agriculture, the most important state interventions during the 1960s to 1980s were the direct involvements of governments in market activities. Input and output marketing and processing facilities in many developing countries (especially in Africa) were almost always operated by semiautonomous government or parastatal agencies, or by mostly government-initiated cooperatives on a monopoly basis. However, the operations of most public marketing agencies tended to be costly and inefficient because of overstaffing and inexperienced management, as well as corruption.

Direct government interventions aimed at correcting market failures frequently resulted in extensive “government failure,” which inhibited positive market responses and development. A large agenda remains for improving the performance of marketing systems in developing countries. The existence of both market failures and government failures calls for a better understanding of the interaction between the public and private sectors and the role of institutions in transformation. Such an understanding is often country-specific, and the path to the successful transformation of institutions in general and to market development in particular often requires experimentation, a willingness to depart from orthodoxy, and attention to local conditions (Rodrik 2003). However, recent market developments under globalization and the rapidly growing local and international demand for agricultural products have opened up important new opportunities for developing countries to find their paths to transformation through the joint efforts of private and public sectors.

The dual economy theory has traditionally regarded the industrial sector as the only modern sector driving transformation, whereas the traditional agricultural sector has been regarded as a provider of surplus, both of labor with little or no marginal productivity, and of savings to finance industrial sector investments. However, many development economists assign agricultural transformation a more active and important role in the development process and treat farmers as entrepreneurs. According to this view, successful agricultural transformation in the short and medium term is a prerequisite for transformation, especially in agriculture-based economies such as those in Africa.

3.2.9. Democracy

The relationship between democracy and economic growth has received considerable attention in recent years. As yet, however, there is no consensus among analysts on the relationship between these two widely studied variables (Baum and Lake, 2003). There are two distinct theoretical expectations on the effect of democracy on growth.

The first theory originated with the “Compatibility School” and explains democracy as an effective tool for safeguarding the private sphere, maximizing economic freedom, stimulating investment, and allowing for the most efficient use of resources. Likewise, democracy may be associated with stronger rule of law, more clearly defined property rights, and greater autonomy of

central banks (Broz, 2002). In other words, by limiting the state's power to intervene in the economy, democracy enhances the functioning of a market economy and, thus, growth.

On the other hand, the "conflict perspective school" argues that at least some ability to resist populist pressure is necessary for growth. In this view, various "developmental traps" exist which can only be overcome through active state intervention in the economy (Baum and Lake, 2003). The empirical literature on democracy and growth is also split, with some studies finding that democracy is positively related to growth and other findings confirming democracy is negatively related, and still others finding no significant difference across regimes (Przeworski and Limongi, 1993; Sirowy and Inkeles, 1991). Helliwell (1994) reports that democracy exerts a small negative effect on growth, but a larger positive indirect effect through education and investment. Gasiorowski (2000) looks at a variety of indirect effects of democracy on growth, but finds a significant path only through the money supply and inflation and concludes that the overall effect in developing countries is weakly negative.

The most widely accepted of the current findings appears to be that of Barro (1997), who reports a *curvilinear* effect of democracy on growth. According to his model, "growth is increasing in democracy at low levels of democracy, but the relation turns negative once a moderate amount of political freedom is attained. Accordingly, Baum and Lake (2003) conducted statistical investigations into the direct and indirect effects of democracy on growth using a data set consisting of a 30-year panel of 128 countries. As a result, they found that democracy has no statistically significant direct effect on growth. Rather they discovered that the effect of democracy is largely indirect through increased public health and education that condition the level of human capital in different societies.

The intuition behind this study is that more democratic countries invest more in human capital than less democratic countries. It is misleading, however, to equate political control and economic success in East Asia since the East Asian experience shows superior performance under a variety of different political situations. Both authoritarian and participatory institutional mechanisms in East Asia managed to achieve features favorable to rapid growth: reducing uncertainty, improving economic incentives, limiting economic controls, providing adequate support services, and often providing a strategic vision. All this shows the merit not of political control but of the ability to use the political and institutional features to achieve development objectives.

Thus, it is true that bureaucracies can facilitate reform or they can prevent it. For example, in many successful East Asian countries, bureaucracies were agents of development. In Singapore, bureaucrats and party officials worked hand in glove for the national agenda. In Indonesia and Malaysia, the political leadership allowed technocrats substantial freedom to manage the economy. In Thailand, the bureaucracy provided continuity when political processes faltered, and in both Korea and Taiwan, core economic ministries were key to government efforts to develop the economy (Leipziger and Thomas, 1997). The means differed, but the institutions were influential in hastening economic development. In other words, the successful East Asian countries are by and large credited with

“visionary” leadership and efficient bureaucracies. Generally, as Barro (1997) explains, the link between democracy and prosperity exists not because democracies increase prosperity, but because prosperity supports democracy.

3.2.10. Japan’s Role in the Development of East Asian Production Structure

On the other hand, Japan’s role in the development of the East Asian production structure over the past three decades should be also taken into account. This has occurred through provision of Japanese war reparations, aid, and investment leading to high levels of intra and inter-regional trade, through the creation of a web of production networks based around Japanese firms. For instance, in the 1988-1990 periods, Japanese FDI in East Asia totaled 12 percent, while FDI from USA and European countries was 6.2 percent and 1.8 percent, respectively (Kelly, 2002, p. 81). The corresponding figures for the 1991-1993 periods were 10 percent for the USA, 16.6 percent for Japan, and 3.6 percent for Europe. By the same token, in 1993, Japan was the largest trading partner of China, Thailand, Malaysia and Indonesia, and the second largest trading partner (after the US) of South Korea, Taiwan, Singapore and the Philippines. Of the total \$11.2 billion Japanese ODA in 1993, Asia’s share was about 59.5 %, and within Asia itself, China was the major recipient.

Moreover, Japan’s response to the Asian financial crisis was also very significant. This include nine economic stimulus packages since 1991-including the 120 billion yen package announced on 24 April 1998 and 30 trillion yen in loan guarantees to small and medium size enterprises designed to slow the bankruptcy rate and halt the rise in unemployment (Kelly, 2002). Moreover, Japanese overseas development assistance (ODA) by regions of the world from 1970 to 1997 is shown in table 3.2 below.

Table 3.2: Regional Distribution of Japan’s Bilateral ODA (%)

Region	1970	1980	1985	1990	1993	1995	1997
Asia	98.3	70.6	67.7	59.3	59.5	54.4	46.5
(northeast)		4.2	15.3	12.0	17.7	15.2	8.0
(southeast)		43.9	37.6	34.3	29.9	24.6	21.4
Middle east	3.3	2.5	1.7	1.5	2.2	6.8	7.8
Africa	2.3	18.9	15.0	15.4	15.9	12.6	12.1
Latin America	-4	6.0	8.8	8.1	9.0	10.8	10.8
Europe	-0.2	0.2	1.1	6.9	1.7	1.5	2.0
Oceania	0	0.5	0.9	1.6	1.7	1.5	2.4
Unclassifiable	0.3	1.2	4.8	7.1	10.0	12.3	18.3

Source: Kelly (2002)

East Asian countries have benefited from Japan not only in development aid, but also more importantly they benefited from technological transfer through FDI and exports. Furuoka (2005) has used Kaname Akamatsu's *Flying Geese model* to analyze Japan's role in East Asian economic development. In the

initial stage of the formation of the second gaggle of flying geese, Japan (the leading goose) exported manufactured goods to the second-tier geese, i.e., South Korea, Taiwan, Hong Kong and Singapore. All those countries later came to be known as Asian Newly Industrializing Economies (NIEs). Once local demand for imported goods in NIEs had reached a certain threshold, Japan proceeded to establish production bases there. In the next stage, Asian NIEs became able to produce internationally competitive products, while Japan assisted the NIEs' efforts in industrialization by providing them with foreign aid. As had been the case with Asian NIEs, Japan assisted the third-tier geese such as China and three ASEAN countries, namely Thailand, Malaysia and Indonesia in their efforts to industrialize and modernize their economies by supplying them with vast amounts of money as foreign aid.

Thus, the flying geese model depicts the latecomers replicating the development experience of the economies ahead of them. Each economy moves over time from labor-intensive manufacturing into more capital-intensive manufacturing as its factor endowments change and its comparative advantage evolves.

3.2.11. Chapter Three's Conclusion

This chapter reflects the views of different school of thought on how East Asian countries have been successful in economic structural transformation from producers and exporters of few primary commodities to producers and exporters of manufacturing and high-tech products within three or four decades. Thus, it should be noted that export diversification, particularly vertical export diversification is seen as one of the means within a comprehensive development strategy through which East Asian countries have achieved economic structural change and sustainable economic growth, which are the main focuses of this chapter. This analysis is, therefore, attempts to answer some of the research questions posed in chapter (1.5) including: how East Asia could diversify its economy and structurally changed through time? What other factors cause the growing divergence in economic growth between East Asia and SSA? What is it that East Asian governments have been doing right and which those African governments are failing to accomplish?

It is widely accepted that economic structure changes significantly during the transformation period, when industrialization triggers a rapid increase in the share of manufacturing in the economy and a concomitant decline in agriculture's share (Chenery 1960, Kuznets 1966, Chenery and Taylor 1968). Though agriculture has historically occupied a very important status in the economies of East Asia, the transition has been completed more quickly in this region than in other developing regions. Recognizing that they had few natural resources, East Asian countries noted very early in their development that their most valuable assets were their people, and they have invested heavily in human capital to support economic development. Hence, Education and vocational training rose greatly in terms of quantity and quality. Local experts and technical staff were created through education. In line with this, the

maintenance of high deposit rates and domestic investment rates have provided the capital required for economic development.

Generally, there are at least four “deeper” explanations for factors causing structural economic transformation and sustainable economic growth in East Asia (Petri, 1997). These include the neoclassical approaches, the structuralist theory, the culturist’s explanations, and the theory of the “contagion effects of successes.” *Firstly*, the neoclassical approach argues that East Asia’s miracle economies succeeded because (i) they adopted an outward oriented trade strategy to build linkages with world markets and technology. They achieved these with policies ranging from broad liberalization to export promotion designed to offset protectionist biases favoring domestic industries; (ii) they pursued conservative macroeconomic policies to create a stable, predictable environment for investment and trade. Imbalances were addressed swiftly and decisively, keeping inflation low, exchange rates competitive, and debt affordable; (iii) they invested vigorously in human capital to develop an educated and technically competent labor force; and (iv) they maintained competitive markets for their growing and diversifying export products in line with facilitating the structural transformation from primary production to manufacturing and eventually to knowledge-intensive industries. *Secondly*, the structuralist theory has singled out government leadership in industrial policy. The structuralist interpretations of East Asian success emphasize that policy regimes in many East Asian countries departed significantly from market-oriented norms. In the structuralist view, these interventions were necessary to develop infant industries and upgrade the industrial structure. *Thirdly*, the culturalist explanations have focused on governance and societal characteristics. This approach argues that East Asia’s cultural traditions positively affected the behavior of individual economic agents and economic organizations and methods of governance. Confucian traditions may have been responsible for East Asia’s unusually high propensity to save and educate and for its strong, publicly motivated bureaucracies. *Fourthly*, the “contagion effects” theory suggests that the most obvious common feature of East Asian miracles is geography. It suggests that East Asian economic growth may have been shaped by regional contacts, including flows of goods, investments, technologies, aspirations, and ideas about governance. Thus, individual East Asian economies might have been successful because they developed together rather than in isolation.

Thus, most of the East Asian governments have adopted a development strategy of “phase-by-phase” industrialization and created economic systems which are characterized by effective macro policy environment and planned allocation systems for resources. Likewise, the governments in East Asian countries have an important role in strategic intervention and regulation. Hence, common to East Asia’s success were policies for macroeconomic stability, human resource investments, infrastructural development, export diversification, an outward orientation in export strategy, and greater attention to the role of private capital. Several empirical studies indicate that the role of capital accumulation in East Asian development is crucial, showing that the share of investment in GDP increases significantly

during the transformation process. By the same token, the success story of East Asian countries is mainly in attracting export-oriented FDI.

Thus, there is a common consensus that one of the key factors for East Asian countries success was their ability to diversify their exports mainly vertically and thereby undertaking economic structural transformation from producing and exporting a few primary commodities to the production and export of diversified manufacturing products within a short period of time. For this reason, East Asian governments placed a strong emphasis on an export diversification development strategy as part of their strategic intervention programs. This was practiced even in Hong Kong in which the government was noninterventionist compared to other new industrialized economies (NIEs).

To sum up, East Asia's success in enhancing effective vertical and horizontal export diversification and thereby economic structural change, and sustainable economic growth was attributed to: mobilization of domestic savings for investment, a large investment in education (human capital), expanding physical infrastructure, a large FDI inflow, and capital formation, stable macroeconomic and institutional environments, a fair trading system, an effective foreign aid , technological transfer, and a stable and durable political regimes.

Chapter Four

Sub-Saharan Africa's Economic Performance and Underlying Constraints

Thirty-five out of 48 Sub-Saharan African countries were classified as low-income, with per capita incomes below \$900 in 2005. Among the 25 poorest countries in the world, with per capita incomes below \$400 in 2005, 22 were in Sub-Saharan Africa (Breisinger and Xinshen, 2008). Three quarters of developing country exports in early 1980s were primary commodities, but now around 80% of developing countries are manufactures. However, Africa has not been a part of this transformation. Processed products in Africa account only for less than 10% of the total exports from the continent.

Many African countries today have a much smaller formal manufacturing sector (as a share of the economy) and this clearly poses a challenge for many African countries in their quest to make manufacturing the leading sector in transformation. The majority of the manufacturing sectors in African countries were created by strong government intervention during the 1970s and 1980s. This manufacturing is therefore often less efficient and competitive even in domestic markets.

There are structural, economic, political, institutional and social constraints that contributed to SSA's weak economic performance that are discussed in details in this chapter.

4.1. Narrow Based Economy due to low level of Economic Diversification

Development theory and practice indicate that economic development generally consists of nations undergoing a series of structural transformations from traditional, less productive and less profitable activities to technology-oriented, more profitable and value-added activities. According to Clark and Roy (1997), this transformation includes the change from less sophisticated to more sophisticated agricultural techniques, from agriculture to manufacturing and services, from light to heavy to high technology industries in post agricultural economies. While structural transformation was sustained and rapid in East Asia, where manufacturing exports jumped from 22% of exports in 1963 to 87% in 2000, SSA experienced only a slight change from 7% to 20% in the same period (Maswana, 2006).

There are different views as to why Africa concentrated only on the export of primary products. *On one hand*, as Wood and Mayer (2001) put it, the concentration of Africa's export in unprocessed primary products is largely caused by the region's combination of low levels of education and abundant natural resources. *On the other hand*, Collier (2002) argues that Africa's current comparative advantage in primary commodities is often due, not to its intrinsic endowments or location, but to a poor investment climate that is mainly associated with policy distortions.

African countries have not diversified their exports towards more dynamic primary commodities and manufacturing goods, which are less prone to the vagaries of international markets. Africa as a whole has even lost export market share, down from 6 per cent of world exports in 1980 to about 3 per cent in 2007. It is clear that the recent substantial rises in African countries' export earnings have not allowed Africa to recover its lost market share. The report identifies Africa's weak supply response as the most important factor in the continent's low export performance, suggesting that future export policies should focus more on ways to increase production for export. The report proposes some policies that could help Africa refocus its development priorities on structural transformation in order to increase the continent's supply capacity and export response.

Though there has been some improvement in Africa's export performance after trade liberalization, mainly since the early 1990s, the level and composition of the continent's exports have not substantially changed. The performance of the export sector after trade liberalization fell short of expectations and the improvement has been small relative to the experience of other developing regions (UNCTAD, 2008). In fact, African countries remain principally primary commodity exporters and the dependence of African countries on a small number of export products has increased in the period following liberalization. As a result, many countries in the region are at present less able to withstand the adverse effects of price fluctuations on primary commodities and export earnings instability than they were prior to liberalization. Similarly, from early 1980s onwards, many African countries have abandoned attempts to provide financial and technical support for domestic industry. By the mid-1980's, the capacity utilization rates in manufacturing were well below 35% in many SSA countries (World Bank, 1993). Ironically, SSA's manufacturing sector grew significantly in the 1960's; the more than 8% annual average growth rate of manufacturing value added was substantially higher than the corresponding GDP growth rate, although the base of the manufacturing sector from which this growth derived was quite small.

Despite the fact that African countries have made significant efforts in dismantling their trade barriers, investment in the exportable manufacturing sector has been rather limited. The reason is that, in spite of the interest they attracted from the multilateral financial institutions that spearheaded Africa's economic reforms, trade liberalization and other domestic policies are only one factor, and not necessarily the most important one, in determining investment and export performance. The typical reform package coming from multilateral financial institutions lacked complementary investment policies to strengthen the production sector and diversify Africa's exports in order to ease African economies' overdependence on primary commodities. Thus, what Africa needs now is to make the necessary investments that will help to build strong, diversified and competitive productive sectors, enabling the continent to penetrate different segments of the export market. Relying on primary commodity exports alone has not been a successful export strategy for Africa.

During the past five/six years, the African economies have continually grown and the overall situation has been improved. But the adjustment of strategies and improvements in external conditions require time. Africa will be able to step on the path of continuous economic growth only if it undertakes long-term efforts and carries out suitable structural change and economic transformation from heavy dependency on the production and exports of low demand, elastic primary commodities to a more diversified economic base, mainly towards value-added agro-industries and manufacturing, but without completely abandoning the agriculture sector. Hence, export diversification is the main proactive strategy for SSA towards exports of value-added products such as processed foods, apparel, footwear and other labor intensive agro-industrial and manufacturing goods, and thereby to boost trade in global markets and help uplift the continent from the vicious-circle of poverty.

Governments have to develop programs that promote diversification towards higher value added products. These will enable African countries to increase their gains from agricultural production and trade. It will also permit governments to reduce their vulnerability to commodity price volatility and to boom and bust cycles. For instance, export promotion authorities in collaboration with exporters' associations could launch programs to collate and disseminate market information to producers and create a "diversification fund" with support from development partners. Apart from these, supply response via export diversification depends critically on complementary conditions: manpower skills and flexibility, infrastructure, and institutional factors. Where incentives, investments, and institutions are missing or inadequate, output responds weakly to any attempt at structural change on the economy. That is why Thomas and Wang (1997: 502) noted the following:

"The combination of modest distortions, macroeconomic stability, and effective government spending, together with various intangibles such as consensus building and efficient bureaucracies, has made possible the rapid productivity and economic growth of the region. The intangible factors may not be linked to immutable cultural traits, and the bulk of the East Asian experience is one that can be copied elsewhere".

Meanwhile, while African policy makers felt that a fundamental cause of Africa's structural problem was precisely its overspecialization in primary production, the World Bank report entitled "Accelerated Development in Sub-Saharan Africa: An agenda for Action (1981)," which became the classic perspective of the Bretton Woods institutions, recommended Africa to concentrate on primary production, particularly agricultural products. However, it should be emphasized that this is a simplistic and flawed argument since the experiences both in developed countries before, and in new emerging industrialized countries more recently, confirmed that the comparative advantage of a country is dynamic not static. In other words, there is ample evidence to show that most African countries have

huge un-exploited production and export potential that can make those economies internationally competitive once the present structural, institutional, political and economic constraints are eased.

Thus, as Collier (2002) explains, commodity-dependent SSA countries have two options: diversifying away from primary commodities, or learning how to live better with commodity dependency. For many SSA countries diversification is in principle feasible, but has not occurred because dependence has certain trap-like features that make it persistent. In diversifying, SSA countries will have to develop the required pool of skilled labor and attract the necessary capital investments in order to move first into agro-processing and then into light and capital intensive manufacturing.

Today's globalization is also likely to significantly shape the way many developing countries will transform in the future. More recent examples of successful transformation in China, India and Vietnam suggest that globalization offers developing countries the opportunity for rapid economic growth and expansion, especially through export-oriented manufacturing and services. In any case, opportunities arising from globalization can only be realized by a combination of country-specific institutional conditions and country-owned and driven developmental strategies. To begin with, SSA countries have to identify the structural problems that limit Africa's economic growth and seek to address these.

Traditionally, the pattern is that as an economy grows the share of agriculture declines, while that of manufacturing increases. Indeed, there have been structural shifts in African economies since independence with agriculture declining from 40 percent of GDP in the 1960s to 21 percent at the end of the century. However, this decline in the share of agriculture has not been accompanied by a commensurate increase in manufacturing, which rose from 9 to 15 percent of GDP over the same period. Instead, the service sector grew from 34 percent to 50 percent of GDP and may be larger, since the true extent of the informal sector is not known. If Africa is to achieve rapid growth there needs to be both a strengthening and diversification of agriculture - which constitutes the backbone of their economies - as well as a substantial growth in manufacturing output relative to agriculture. There are a few cases where some East African countries such as Uganda, Kenya and Ethiopia have recently increased exports by diversifying into non-traditional exports, typically vegetables, fruits and flowers. For instance, Kenya has earned about \$1.12 billion from exports from fruits and vegetables to foreign markets. Nowadays, iron and steel are also showing strong indications of replacing more traditional exports. Likewise, flower production in Ethiopia, Africa's second-biggest exporter of blooms after Kenya, is increasing since the government offered farmers incentives to start flower farms, including waiving duties on imported machinery and grace periods for tax payments. In the Mauritius case, the more traditional sectors have been sugar and honey, knitted outer garments and watches. Very recently, however, Mauritius has managed to develop non-traditional exports including fish, woven cotton fabrics, knitted undergarments, and non-knitted women's outerwear (Economic report on Africa, 2004). Generally, the experiences of some relative success stories of diversification in Africa confirm that a stable and

sustained economic policy aimed at increasing export diversification could yield gains from trade through increasing economies of scope and competitive advantage in the world market.

Generally speaking, however, Africa has lagged far behind other developing regions in terms of economic transformation that includes not only accelerated growth but also economic diversification, rapid expansion of exports, and structural change. Economic transformation also involves the gradual evolution of labor productivity in the sectoral composition of output and employment (Pieper, 2003). In this process, new sectors can emerge and lead economy-wide growth. The transformation from a traditional economy to a modern one is also accompanied by capital accumulation, technological change, and productivity growth. In this process, economic sectors that are less dependent on natural resources, such as manufacturing, are associated with greater potential for economies of scale and hence for more rapid growth (Adelman, 2001). Accordingly, nonagricultural sectors usually grow faster and become increasingly important in the transformation process (Chenery, 1980; Kuznets, 1971; Syrquin, 1988).

4.2. Weak Institutions and Inefficient Political Regimes

The nature of African institutions and the quality of political regimes and leadership are also partially responsible for the low performance in economic development in general, and insignificant export diversification and structural changes in particular. The vast majority of African countries did not have the political will to attempt to regain control of the development agenda and hence most African leaders have concentrated on survival and followed the line of least resistance in development strategy. This meant relying on the technical assistance, foreign mission reports, project analyses, and blueprints of international development agencies (Ake, 1996).

Similarly, as Mkandawire and Soludo (1999) noted, the economic growth that took place in Africa was often under the aegis of one-party or military rule. Power was concentrated in tiny, educated elites who quickly divorced themselves from the rest of the population. The authoritarian turn in national politics undermined the political coalitions that had sustained the nationalist movements. It also eroded any accountability the state may have had to the citizenry. Under such conditions, corruption and personalization of public property were rampant. The policy environment was characterized by a lack of consultation with populations. African governments were also hostile to domestic capital, regarding it as a political threat. Hence, most Africans have little confidence in the existing political and social institutions in their countries. For instance, a poll conducted in July 2007 reveals that relatively few Africans express confidence in their country's social and political institutions (Figure 4.1). Religious organizations are the only national entities to garner trust from a majority of respondents (76%). The military ranks a distant second, and 61% of Africans express confidence in the armed forces and 51% in financial institutions. Only about 49% have confidence in the quality and integrity of the media. The national government garners trust from just 44% of Africans, and the judiciary fares as poorly, eliciting confidence from about 45% of respondents. But participatory politics was found to be at the lowest

levels of trust, as only 33% of Africans have confidence in the honesty of elections, and about 51% of Africans who say they have confidence in their country's healthcare system.

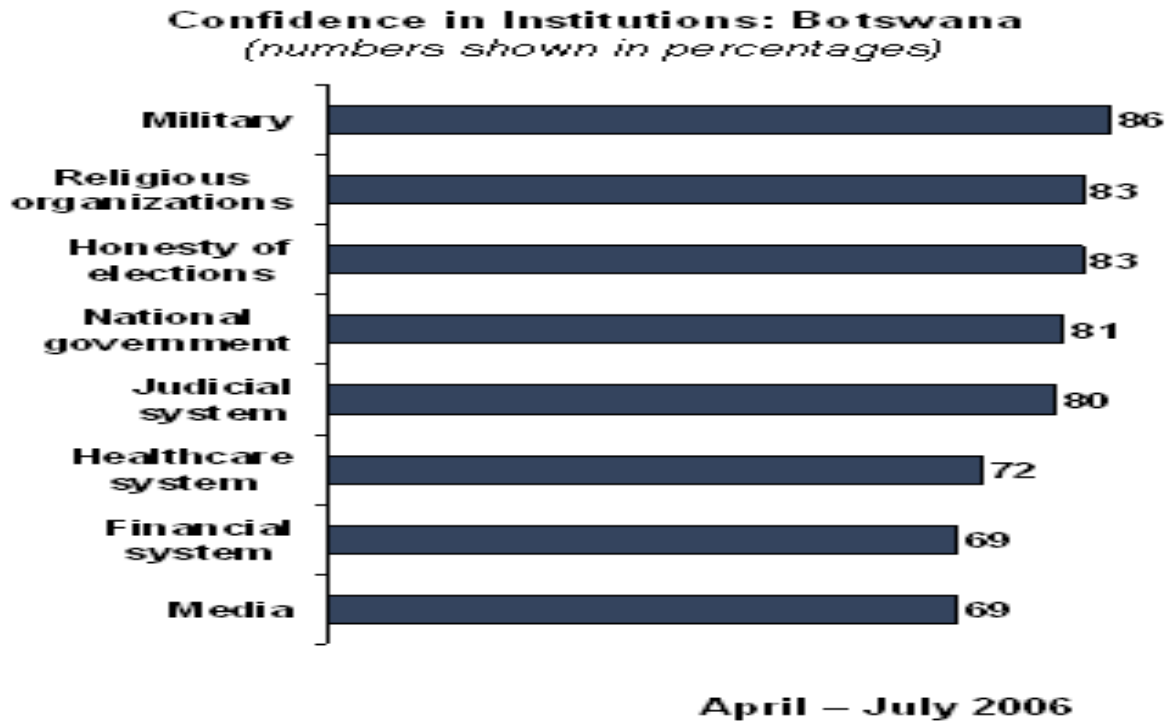
Figure 4.1: People's Confidence for Social and Political Institutions in SSA, 2006



Source: Tortora (2007)

One notable exception to this pattern is Botswana. Upon gaining independence from Britain in 1966, Botswana established one of the very few long-standing multi-party democracies in SSA. That stability is clearly reflected in the population's confidence in all the country's institutions, but particularly those associated with government and democracy. The country's national government, judicial system, and honesty of elections all elicit the confidence of at least 8 in 10. Many of the benefits of government stability directly affect the day-to-day lives of Botswana's population. As in all of sub-Saharan Africa, malaria and AIDS are pervasive, but the country's well-developed healthcare system offers more hope than in most African nations. Universal free education has been another key achievement of the Botswana government; 73% of Botswana say they are satisfied with the country's schools, compared to 50% of Africans continent-wide (figure 4.2).

Figure 4.2: People’s Confidence for Social and Political Institutions in Botswana, 2006



Source: Tortora (2007)

According to Mkandawire and Soludo (1999), the state in Africa has failed significantly in its developmental mission because of various interrelated factors: (i) its “excessive” and “counterproductive” intervention in the domestic economic process, undermining of market forces and the private sector; (ii) its over bureaucratization and bloated size; (iii) the domination of the state’s apparatuses by client networks and an “urban coalition” that orients it against the rural (productive) sector and “rational” macroeconomic policies; (iv) its submission to “rampant macro populism” as it panders to the vociferous urban coalition; (v) its monopolization of the main economic levers in society that have created rent-generating or rent-seeking cliques; and (vi) its over centralization of development, which discourages local (private) initiative. Thus, in contrast to the developmental and distributive role of the state, especially in Korea and Taiwan, where relatively authoritarian states identified their maintenance of power with a successful economy, the SSA authoritarian states have become kleptocracies (Lawrence and Thirtle, 2001).

Generally, it is widely recognized that there are severe problems and bottlenecks in the way policies are formulated, and then implemented, which have been exacerbated by high uncertainty, lack of information and the policy makers’ bounded rationality. Thus, it is critical to build appropriate

institutions and social capacity over time to effectively implement economic policies. Indeed, there are various lessons to be learned from East Asia's style of policy making, which translates policies on paper into actions. Many of the features associated with such effectiveness-consensus building, policy flexibility, and pragmatism-can potentially be replicated. Most clearly, countries not only need to develop a mandate for development, but strategies need to be continually re-assessed.

4.3. Unfavorable Trade and Industrialization Policy

Seen in a historical context, Africa's trade has gone through three distinct phases. Prior to the early 1960s, when many African countries gained independence, African trade policy was defined by the colonial Powers. Trade was essentially a two-way relationship between African countries and their metropolis, whereby primary commodities were exported and manufactured products imported. The trade structure of African countries during this period was driven by the interests of the colonial powers.

In the period from the 1960s to the 1980s, the trade policies of many countries in Africa were informed by the doctrine of import-substitution industrialization (ISI). ISI refers to an "inward" looking strategy that consists of setting up domestic industry to supply markets previously served by imports. ISI in many developing countries had aimed at two main objectives: in the short-run, to improve the balance of payments position by replacing manufactured imported goods with domestic ones; and in the long-run, to reduce dependency and attain economic self-reliance through diversification into manufacturing.

Furthermore, the main argument concerning ISI was that infant industries need protection until they develop and are fit for international competition. According to Reynolds (1988), the famous *infant industry* argument for protection, expounded in Alexander Hamilton's "*Report on Manufactures*," has always been popular in countries in the early stages of industrialization. The argument is that a new industry may be relatively inefficient in its early years, while plants are being expanded to optimum size, labor and management skills developed, and markets connections established. During this period it is vulnerable to low-cost competition from more experienced foreign producers. If it can be sheltered for a time by tariff barriers, however, efficiency can be raised to the point where it can compete with foreign producers on a free basis. The "infant" will have grown up, and the protective walls can be dismantled. This argument was used to justify protecting American manufacturers against foreign (primarily British) competition during the early 19th century. It is widely used today by the countries of Asia, Africa, and Latin America that are trying to push industrialization in the face of competition from more advanced industrial countries.

In practice, of course, all countries that have industrialized have done so behind protectionist walls (Edwards, 1985). One such success story is Korea. Amsden (1989) argues that a strong, interventionist state, which has willfully and abundantly provided tariff protection and subsidies, changed interest and exchange rates, managed investment and controlled industry using both lucrative carrots and threatening sticks. Relative prices were deliberately set "wrong" to create and reap the

benefits of dynamic comparative advantage, instead of letting them adjust to the “right” levels by the free play of market forces, which would have led to short-run efficiency but economic anemia in the long run. Korean development strategy has been primarily a pragmatic trial-and-error approach-with a twofold commitment to growth of exports and protected nurturing of selected infant industries.

Therefore, temporary protection should be essential so that an infant industry will grow up and be able to compete internationally. Otherwise, straightforward liberalization might lead to total elimination of infant industries. This in turn will lead to de-industrialization and total dependency on imported manufactured goods. However, it should be noted that the “infant industry” argument was intended for *temporary* or *transitional* protection for industries which, when fully developed, will turn out to have a comparative advantage in the countries concerned. It is not an argument for *permanent* protection as it was mistakenly considered to be and practiced in many of SSA countries since the 1960s until mid 1990s. Therefore, as Reynolds (1988) notes, the infant industry argument applies in particular cases and requires careful investigation of prospective costs and benefits.

It is also essential to make a distinction between the import substitution which occurs naturally and that which arises from export pessimism. For instance, natural import substitution takes place in the course of economic growth and development in which goods that were previously imported are gradually replaced or supplemented by locally produced goods. On the other hand, the limitations on export earnings and lack of access to protected developed country markets have forced many developing countries to focus on their internal markets as a means of accumulation. This is known as “export pessimism,” and most import substitution policies in developing countries have been adopted for this sort of reason.

Some of the arguments, in the 1950s and 1960s, behind export pessimism include the writings of Raul Prebisch on “center periphery theory” and his followers like Emmanuel, Baran, Sunkel, Amin and others who argued that the terms of trade tended to move against the peripheral countries in favor of the industrialized nations (the center). According to their argument, the alternative way of development for developing countries should be industrialization in the periphery behind protective walls, preferably by forming “producer cartels among groups of countries” (Edwards, 1985). Therefore, the motive behind ISI was not only an economic issue, but also politically derived.

In fact as Balassa (1980) has noted with the exception of Britain at the time of the Industrial Revolution and more recently Hong Kong, all present day industrial and developing countries protected their incipient manufacturing industries producing for domestic markets. Likewise, infant industry protection arguments were justified earlier by Alexander Hamilton and by Friedrich List in 18th century America and 19th century Germany respectively (Edwards, 1985).

Therefore, the failure of many import substitution regimes might come not only from the excessive degree of import substitution, but also from the “chaotic pattern” that such protection is allocated within the various import substitution industries. In other words, the pattern of bias comes as

the combination of two underlying dimensions of a trade strategy: sectoral and market orientations. Sectoral orientation refers to a country's choice of a "leading sector" or the "engine of growth," and market orientation refers to a country's choice of a target market. A key difference between import substitution and export promotion is, therefore, their market orientation. Thus, countries like those in SSA tried to exclude the world from their market; whereas most of East Asian countries used the world market for their growth. For example, Burundi, Ethiopia, Ghana, Madagascar, Nigeria, Senegal, Sudan, the United Republic of Tanzania, and Zambia have all at times adopted inward-oriented policies with high levels of trade restrictions, and the result has been rather counterproductive.

Moreover, SSA's trade and industrialization strategies lacked the dynamism observed in East Asia and elsewhere. During the first decades of independence both SSA and East Asia followed an ISI strategy that was meant to create a domestic industrial base that would be able to compete with the rest of the world at a later stage. However, while the ISI strategy in East Asia created a foundation for a transition to export-led industrialization which later served as an engine of growth in the region, in Africa it led to currency overvaluation, development of parallel currency markets and shortage of foreign exchange required to purchase intermediate inputs used to produce both tradable and non tradable goods. Hence the transition to an export-led industrialization strategy never materialized.

Moreover, trade policies in most African countries during this period were characterized by extensive state involvement in the economy, both in production and in marketing. Additionally, the domestic market in these countries was shielded from foreign competition through a number of policy measures. Non-tariff measures (NTMs) such as quantitative import restrictions and government licenses were used profusely to restrict imports. Tariff structures were often highly complex, with a large number of tariff rates, and tariffs were high. Exports were often restricted by a number of export taxes and strict rules and regulations. The exchange rates of countries outside the CFA franc zone were often highly overvalued and access to foreign exchange was rationed.

In the late 1970s and early 1980s, a combination of factors created a large-scale economic crisis in sub-Saharan Africa. The external environment deteriorated as a result of the global economic crisis that followed the two oil crises of 1973 and 1979, strongly and negatively affecting the demand for African exports and resulting in falling commodity prices. Additionally, interest rate hikes dramatically increased the cost of servicing foreign debt (UNCTAD, 2004). Domestically, few countries were able to use ISI effectively to create an internationally competitive manufacturing sector. Instead, many countries in Africa found themselves facing difficult global conditions with economies that lacked competitiveness due to excessive state intervention in the economy and mismanagement. In response to the economic crisis in Africa, the international financial institutions advocated a policy package of market-oriented reforms, of which trade liberalization was an integral part. Indeed, there was a noticeable shift in these institutions' approach to economic policy in Africa as of the early 1980s. This was most evident in the publication of a World Bank study in 1981 entitled *Accelerated Development in*

Sub-Saharan Africa (commonly known as the “Berg Report”). By the second half of the 1980s, about 60 per cent of African countries were undergoing or had gone through a structural adjustment program designed in collaboration with the World Bank and the International Monetary Fund (World Bank, 1994). By the mid-1990s, most African countries had undertaken such programs.

In theory, trade liberalization was expected to have a positive influence on the long-term growth of the economy in several ways. First among these is the “substitution effect,” according to which trade liberalization should reduce the price of imported inputs and remove barriers to exports, thereby shifting the incentive structure towards greater production in the tradable sector and improving export performance. This sector is expected to be more efficient than the non-tradable sector as it is more exposed to competition. As a result, total factor productivity in the economy will be improved. Second, there is the expectation that greater emphasis on the production of tradable will encourage greater investment. This should expand production and confer positive externalities on the economy, particularly if the investment comes from abroad. Third, increased production for trade means that output volumes rise, allowing for “learning by doing.” Fourth, it is expected that trade will lead to technology transfer and that with more efficient technology, and total factor productivity in the economy will improve. Finally, trade promotes sectoral and product diversification, and export diversification in turn can be used as a catalyst for expanding trade through increasing export competitiveness. However, this lack of diversification in terms of export sectors in many African countries is mirrored by the lack of diversification in export products. Moreover, most African countries have not managed the transition from traditional exports to more dynamic export sectors with higher earnings. Historically, it appears that episodes of diversification in Africa have been sporadic and short-lasting, the gains of one period often being reversed in the next (Economic Report on Africa, 2007).

Most African countries now have liberalized trade regimes. The process of liberalization occurred principally in the late 1980s and in the 1990s, and involved the tariffication of non-tariff barriers, cuts in the number and value of tariffs, exchange rate liberalization and the removal of export barriers. Overall, export performance in African countries following trade liberalization has been disappointing. Indeed, although there has been a positive effect of trade liberalization on exports expressed as a percentage of GDP, this effect is weak and the overall trade balance in African countries has deteriorated since liberalization (UNCTAD, 2008). This was mainly because many African countries liberalized their economies not of their own “will,” but pressurized by international financial institutions such as the IMF and the World Bank so as to receive loans for their economies running. Consequently, the liberalization process in Africa didn’t adopt a gradual approach as it happened in most of the East Asian countries. In other words, the liberalization in Africa took place in haste and consequently African exports continued to grow at a lower rate than in other regions in volume terms (UNCTAD, 2008).

Moreover, there are other external constraints to entry into the markets of OECD economies related to tariff and non-tariff barriers as well as the *defacto* barriers which are deliberately erected by

multinational firms dominating international production and marketing chains. For instance, exports of processed fruits, vegetables and fishery products from developing countries are often constrained by stringent quality and sanitary requirements in major import markets, mainly in developed countries. Similarly, it is a challenge for new entrants to compete equally with already established firms that have strong information networks and marketing links and, in some cases, brand names. These firms tend to have considerable market power over prices and in securing exclusive selling deals with major retailers.

Though the presence and influence of big international companies in global commodity production, processing, and trading systems are not in doubt, experiences from East Asia and other successful emerging developing countries show that external barriers do not necessarily preclude the emergence of domestic processing industries in developing countries. For instance, East Asian nations have successfully overcome this challenge in the process of their development. In fact, Sub-Saharan African economies have recently enjoyed trade preferences in exports to the European markets through the European Union preferences scheme and the AGOA preferential treatment to the USA. However, most SSA countries have not yet utilized these opportunities, and consequently SSA economies have still not been transformed into exporters of processed commodity exports (UNCTAD, 1995).

Generally, the successes and failures of ISI in many SSA developing countries are highly dependent on their respective governments' commitment to adapting strategy to the socio-economic and political conditions of that country. There is strong evidence that, to implement the ISI policy, some countries have chosen instruments and techniques that seem, in effect, to prevent the policy from being successful (Livingstone, 1981). Hence most of the criticism of import ISI strategy should not be aimed at the strategy itself but how governments have intervened and made policy decisions, and the level of import substitution and its duration. On the other hand, interdependence has become the condition of survival for all countries and African countries should be more fully integrated into the world economy.

4.4. Weak Physical Infrastructure and low level of Savings & Capital Formation

Africa has taken significant steps to liberalize its trade regime, but with very limited manufacturing export response. Some analysts have attributed Africa's failure to increase manufacturing exports to the continent's natural comparative advantage in the production of primary commodities. This is a simplistic and flawed argument. There are circumstances where countries have changed their comparative advantage by choosing to invest resources in the production of new high-value products with better export potential. Instead, Africa has failed to increase its exports of manufacturing goods primarily because it has not addressed the most binding constraints to exporting, namely the weak supply capacity of African economies and poor trading infrastructure. Since trade liberalization has been successful in improving the trading environment, the focus now should be on addressing the structural constraints in African economies, to make them more responsive to export opportunities. This will require massive investment in productive and trading infrastructure, with a view to increasing the continent's

competitiveness in the world market of manufactured products. Furthermore, Africa's geographic isolation from its export markets mainly due to undeveloped infrastructure such as poor port facilities implies that export costs are very high. Unfortunately, the reforms undertaken did not recognize the importance of investing in physical infrastructure to reduce the cost of trading.

In relation to these, it is true that Africa still largely be looking solely to foreign aid to plug its financing gap rather than to internally generate domestic savings or rely on indigenous private entrepreneurs. This is not just because of the debt overhang, though that is a contributory factor. The accumulated loss of faith by Africans in the regimes that govern them is so profound that Africans either prefer immediate consumption to savings; or are exporting their savings through capital flight. There is evidence that Africans have transferred a staggering 37 percent of their wealth abroad, as compared to 29 percent in the Middle East, 17 percent in Latin America, 4 percent in South Asia and 3 percent in East Asia.

Thus, it can be argued that one key reason for the divergence in growth performances between East Asia and SSA was the disparity in savings and investment rates. Saving rates nearly doubled in some countries in East Asia, where they averaged 30% of disposable income between 1984 and 1993, while SSA's already modest savings rates fell to between 10 and 15%. During the period 1980-2004, the savings rates in Africa was 16% of GDP, but it was erratic and remained lower than investment rates of 19% for the same period while savings and investment rates in Asia averaged 30% in the same period and the saving rates in Asia have surpassed investment rates in Asia since the 1990s (Maswana, 2006).

4.5. Low level of Private Sectors' Participation and Lack of Strong Support to SMEs

In Africa, the private sector consists of mostly informal micro-enterprises, operating alongside large firms. Various reasons are cited for the poor, domestic private sector response, ranging from tight monetary policy and the public sector crowding out of the private sector, to political uncertainty. Given the pervasive involvement of the state in almost every area of African economic life in the past, privatization is potentially an important means of boosting the domestic private sector and indeed of helping to repair relations between the government and local entrepreneurs. An important means both of increasing transparency and facilitating local participation in privatization is through the development of capital markets. Capital market-based privatization provides an improved chance of fair pricing of the enterprises, and hence serves as an important means of de-politicizing the privatization process. In addition, privatization, through local capital markets, allows for local investor participation and hence enhanced diversity of ownership of the country's assets.

Most companies are small because the private sector is new and because of legal and financial obstacles to capital accumulation. Between the large and small firms, SMEs are very scarce and constitute a "*missing middle*." SMES are weak in Africa because of small local markets, undeveloped regional integration and very difficult business conditions, which include cumbersome official

procedures, poor infrastructure, dubious legal systems, inadequate financial systems and unattractive tax regimes. SMEs in Africa are generally perceived by local banks and financial institutions as risky and therefore unprofitable (Clements-Hunt, 2007). As a result, many firms stay small and informal and use simple technology that doesn't require much use of national infrastructure and trained manpower. Apart from this, except for South Africa and Mauritius, the rise of SMEs in SSA has been hindered by political instability or strong dependence on a few raw materials.

While SMEs are largely neglected in SSA, experience from East Asia however proves that SMEs can play an important economic role in individual economies. This is especially so from the point of view of creating employment, as a source of innovation, generating exporting opportunities, and as a source of future successful medium and large enterprises. Developments in information technology and the movement towards greater global trade and financial integration imply even greater opportunities for further expansion of SMEs (Harvie and Lee, 2002). SMEs also show a growing involvement in sub-contracting and generate dynamism by realizing entrepreneurial capability.

Informal manufacturing and related services are expanding in many rural and urban areas of African countries and deserve more attention in the process of transformation. This informal sector is often referred to as the "traditional sector," as described in Lewis' dual economy theory (Stifel and Thorbecke 2003), but the formal-informal dichotomy remains a subject of ongoing debate in the literature (see, for example, Guha-Khasnobis et al., 2006). It can be argued that many informal manufacturing activities have the potential to scale up and become important growth components in African countries. This scaling-up can be driven by domestic or international capital and entrepreneurs, and will require significant improvements in the business environment. Improving infrastructural conditions such as electricity and road access in the case of Ethiopia and removing credit constraints in the case of Ghana should allow some informal manufacturing enterprises to grow rapidly, given the existence of a strong and growing demand from domestic markets. In this process, enterprises might also seek to establish links to the international market and attract foreign capital, technology and knowledge.

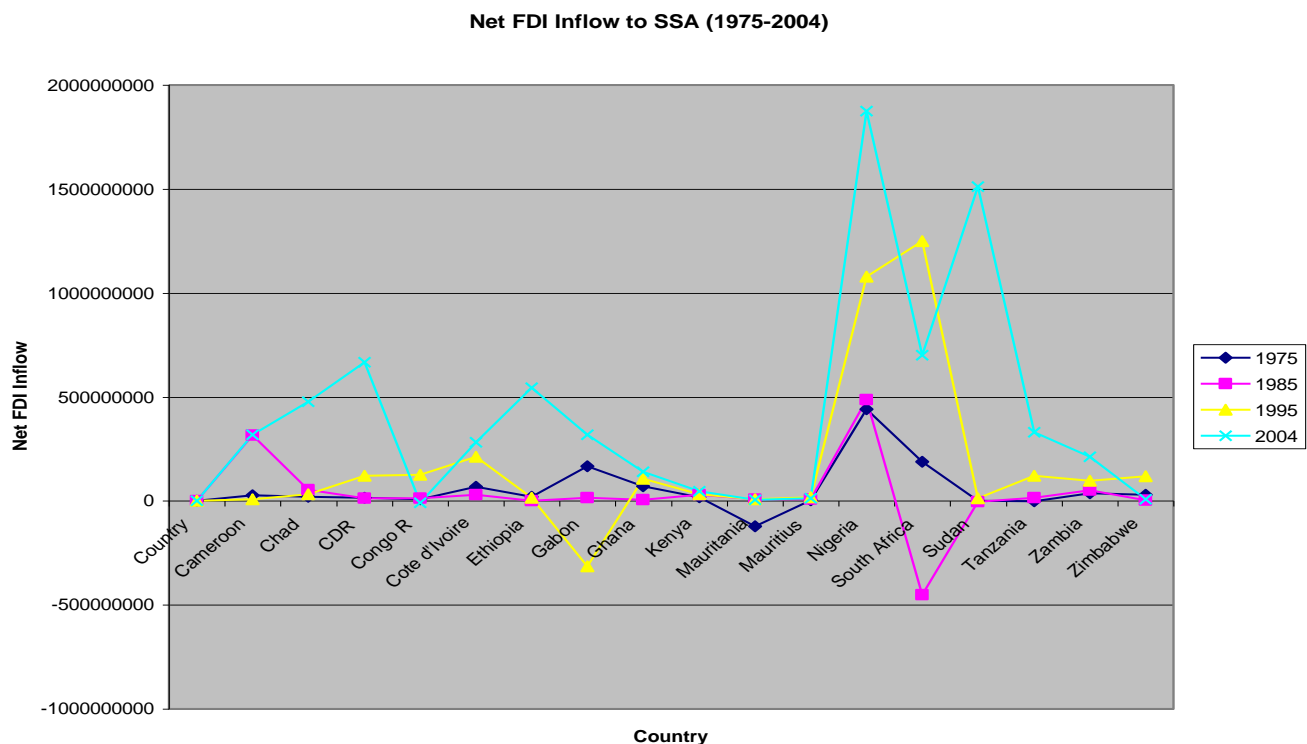
One of the reasons why the manufacturing sector is important for dynamic and sustained growth is that unlike primary commodities, manufactured goods tend to have high income elasticities of demand and hence there will be more opportunities for export market expansion. That is why the literature on endogenous growth also emphasizes the importance of increasing returns to scale in the manufacturing sector in long-run growth (Matsuyama, 1992).

Thus, African countries could create a comparative advantage in manufactured products if they address the specific problems hampering the competitive production of these products. These problems include low levels of productive investment, low productivity, small size of manufacturing firms and limited access to production factors, particularly credit. Meanwhile, it is doubtful that further trade liberalization alone without strengthening the productive capacity of African firms will substantially increase Africa's manufacturing exports.

4.6. Political Instability and low level of FDI Inflow

In many parts of SSA, the 1980s and early 1990s were years of civil strife and political instability and all of these have had an adverse effect on long term investments including FDI. Most multinational companies still never look seriously at the prospects of any African country and mainly remember the negative image of the continent associated with wars and political instability. As a result, the FDI level in Africa is the lowest compared to other developing regions such as East Asia and Latin America. Hence, SSA has experienced not only an extremely low level of FDI inflow but also considerable capital flight in fear of civil war and political instability. The FDI flow into Africa by the mid-1980s had deteriorated from the 1970s as shown in figure 4.3 & figure 4.4 below.

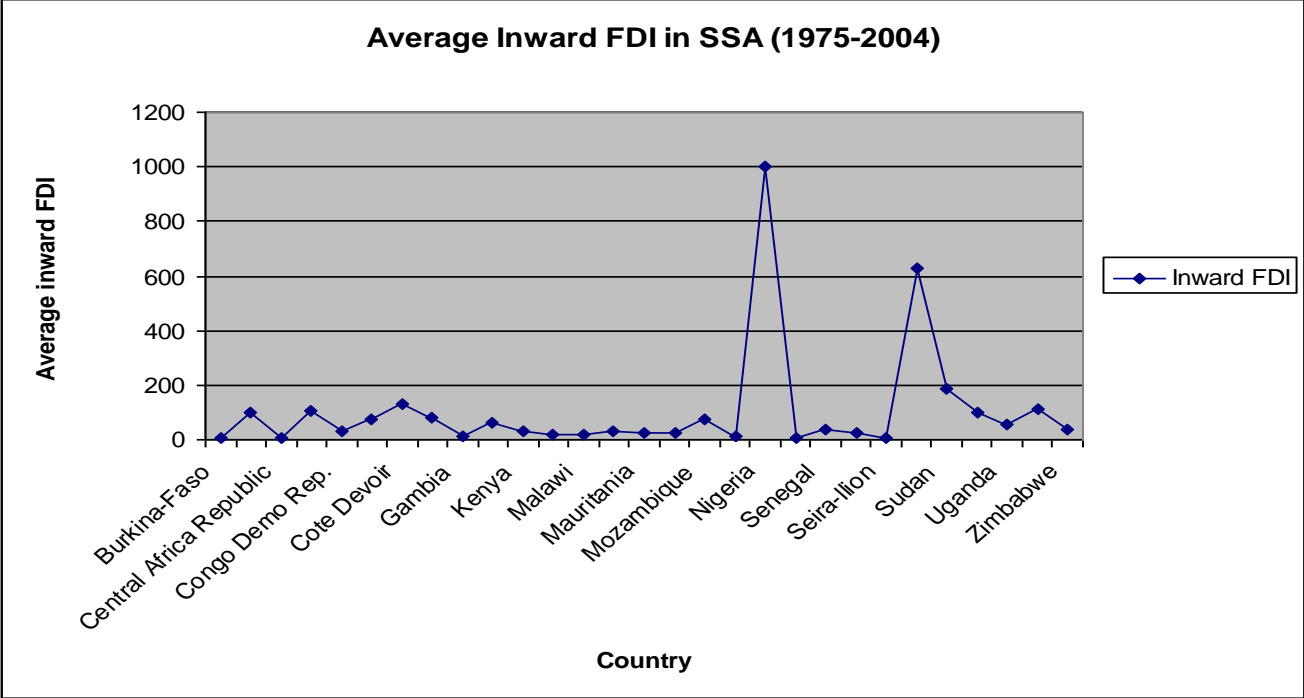
Figure 4.3: Net FDI Inflow to Sub-Saharan Africa (1975, 1985, 1995 and 2004)



Furthermore, FDI in Sub Saharan Africa has mainly concentrated on resource seeking and the lower end manufacturing sector, unlike East Asian countries in which FDI is largely concentrated in value-added manufacturing and service sectors. For instance, figure 4.4 below verifies that it is only oil economies such as Nigeria and Sudan that have attracted much FDI in SSA. Likewise, the largest portion of FDI in SSA is located in the capitals and their surroundings, because of the availability of a relatively skilled labor force, better infrastructure, and better peace and stability.

However, since late 1990s, many of the countries in SSA have achieved a certain economic recovery and relative political stability and thus exhibited substantial improvement in attracting FDI compared to the previous decades.

Figure 4.4: Average Inward FDI in Sub-Saharan Africa, 1975-2004



On the other hand, there is evidence which indicates that the profitability of foreign companies in Africa has been consistently higher than in most other regions of the world (UNCTAD, 1999). In fact, the rate of return on FDI to Africa is 29 percent per year, higher than in any other region of the world. Yet only 4 percent of the total investment pouring into developing countries is going to Africa (K.Y. Amoako, 2000).

That is why many African governments today consider China as a role model for Africa’s economic development. According to Large (2008), the thrust of Africa’s interest in following China’s model of development emerges: prior to 1949, China was devastated by war, and levels of development in certain African states were above that of China and other East Asian countries; but today China offers an impressive demonstration of a developing yet already significantly advanced economy. Therefore, it is no wonder that China has not only emerged as a model for development but has spearheaded pro-business cooperation investments throughout Africa. Moreover, it has been more and more evident that China’s economic interest in Africa extends far beyond its prodigious demand for energy. In fact, China has highlighted its commitment to help African countries in building processing factories and provide

technical and management training courses in a bid to increase the added-value of their exported commodities and, thus, increase the competitiveness of their products (Taylor, 2006).

Thus, the East Asian experience can be used as a vital reference for Sub-Saharan Africa so as to enhance inward FDI and use it efficiently as an engine of economic growth. Countries in SSA should make the utmost effort to improve the education levels and skills of their people, to establish a relatively well-developed infrastructure, to put in place stable and predictable policy and macroeconomic environments, to create favorable trade policies, and last but not least enhance political stability.

Beginning in the mid 1990s, African economic growth started to recover from a long period of low and even negative growth rates. Annual growth rates averaged 4.4 percent during the first seven years of the new millennium, and growth accelerated during this period, reaching 6.1 percent in 2007 (World Bank 2008a, Binswanger and McCalla 2008). In several countries, including those that are not mineral-rich, the growth rates were even higher. Countries such as Ethiopia, Ghana, Malawi, Mozambique, Nigeria, Rwanda and Tanzania all experienced average annual growth of from 5 to 9 percent from 2000 through 2007. While Nigeria has benefited from the recent oil boom, the non-oil sector, which includes agriculture, has grown at a higher rate than the oil sector (Nigeria Bureau of Statistics 2007). Thus, a number of recent successes in many SSA countries, including increases in GDP growth, increases in agricultural productivity, increases in exports, a dramatic rise in school enrollment, and improved access to water supply, demonstrate that rapid progress is possible across Africa when sound national programs are matched with adequate development assistance and full support from the international system.

The recent improvement in economic growth of some African countries has been the consequence of political and macroeconomic stability, improved domestic policies, and favorable terms of trade for a number of commodities exported by many African countries. According to Binswanger and McCalla (2008), 22 African countries held elections in 2007, and all these elections were declared “free and fair.” Armed conflicts decreased down to 5 from 15 in 2003. In this improved environment, most countries’ governments have identified growth acceleration as the centerpiece of their development strategies. The heads of states of most developing countries and the New Economic Partnership for African Development (NEPAD) have also committed themselves to the Millennium Development Goals (MDG), thereby empowering African countries to develop and implement their national strategies. The global environment has also been conducive for growth, and the emergence of several large developing countries (e.g. China, India, and Brazil) has significantly changed the international landscape. Globalization has begun to link growth in these and other developing countries with further development in Africa, with the result that African countries are experiencing both new opportunities and new challenges. Obviously, if African countries manage to sustain their recent economic performance, rapid growth would be expected to result in substantial structural changes within these economies. The goal of reaching middle-income country status has been explicitly written into the development strategies of

some African countries (e.g. Ghana, National Development Planning Commission 2005 and Nigeria, Nigeria National Planning Commission 2007) or included in the countries' visions for 2020 or 2030. However, moving from low- to middle-income status requires more than an increase in per capita income; it involves transformation as an important part of development.

All in all, there is a strong need for macroeconomic and political stability in SSA so as to achieve the goal of attracting huge FDI and thus utilizing it as an alternative source of capital accumulation that may complement domestic investment.

4.7. Externally Imposed Macroeconomic Policies: The “Washington Consensus” in the 1980’s

Although most African countries which gained independence in the 1960s showed rapid economic growth, their growth could not last beyond the first oil shock in 1973. By the early 1980s, African countries already began to show signs of economic stagnation and their external deficits had become so severe that donors and other financiers were no longer willing to continue to provide support. Thereafter and following the 1980 *Washington Consensus*, most African countries were forced to adopt the neoliberal Structural Adjustment Programs prescribed by the World Bank and IMF. However, the outcomes of these programs were often counterproductive. Both international financial institutions (the IMF and the World Bank) were extremely active in policy formulation, development, and implementation in SSA countries in the 1980s and 1990s. There are two distinct but interrelated packages of adjustment policies: stabilization policies and structural adjustment policies. Stabilization policies have aimed at the minimization of current account imbalances (i.e. debt management), reduction in domestic absorption, exchange rate devaluation, dismantling restrictions and barriers imposed on international trade, and, above all, opening up the country to foreign investors (George, 1988). Policy reforms usually focus on conditional loans. These loans are conditional on the recipient's willingness to minimize the size of government and its intervention, promote the free-market system, free wages and prices, discontinue credit expansion, devalue the local currency, and so on (Cornia, Joly, and Stewart, 1987). Structural adjustment policies, on the other hand, demand state effectiveness in such areas as policies regarding trade, banking, and finance; planning; policy formulation, initiation, and implementation; and economic monitoring, etc (Picard, 1994:3).

However, the adjustment policies imposed by the World Bank and IMF have not achieved any significant success because they continue to ignore the critical role of the human factor in the development process (Adjibolosoo, 1995a) and the role of the state. As a result, educational standards, the quality of health-care delivery, and the performance of many other public services declined in both efficiency and effectiveness. According to Collier and Gunning (1997), GDP per capita declined by 1.3 % per annum during the 1980s, a full 5 percentage points below the average for all low-income developing countries. This deterioration was even worse during 1990-94, at 1.8% per annum, further

widening the gap with other developing countries to 6.2 percentage points. Likewise, the external debt of SSA more than doubled over the adjustment period, without any increase in economic growth to sustain its servicing in the future. For instance, the indebtedness of Nigeria increased over the adjustment period. The debt stock, which was only \$18.9 billion before the SAP period, had risen to \$33.2 billion by 1991. Inflation which averaged 18 percent between 1980 and 1985, rose to an average of 24 percent between 1986 and 1991; by the end of 1992 it was over 46 percent and remained in that high range through 1993 (Ake, 1996).

Africa's infrastructural base and human capital formation, which were deemed to be fragile at the beginning of adjustment deteriorated even further. Africa's capacity to manage the crisis was further eroded through massive brain-drain and demoralization of the civil service, caused by sharply declining real wages, massive retrenchment, and the incessant vilification of civil servants as corrupt members of corrupt institutions (Mkandawire and Soludo, 1999). Human development indicators mainly life expectancy, infant mortality, and school enrollment, worsened. In a study by Ali (1998), which used data from IFAD and classified countries according to the WB categories, 10 SSA countries were classified as "intensively adjusting" (Ghana, Kenya, Malawi, Tanzania, and Zambia), "other adjusting" (Gabon, Gambia and Mali), or "non-adjusting" (Ethiopia and Lesotho). For each of the 10 countries, IFAD reported the head-count ratio as a measure of poverty over the period 1965-88. For the intensively adjusting countries, it was found that the index of rural poverty had increased from 56.6% in 1965 to 62.4% in 1988. Similarly, for the other adjusting countries, the index of rural poverty increased from 45.1% in 1965 to 60.7% in 1988. The corresponding absolute number of the poor increased from 18.2 million to 36.2 million for the intensively adjusting group and from 2.3 million to 5.1 million for the other adjusting group. In contrast, the head-count ratio for the non-adjusting group decreased from 65.8% in 1965 to 43.6% in 1988, and the absolute number of the poor remained constant around 17 million (Ali, 1998; Mkandawire and Soludo, 1999).

Generally table 4.1 shows how poverty in Africa was intensified since the implementation of SAP in many of the African countries. However, it doesn't mean that SAP was the main root of poverty in Africa, but it aggravated the already existing problems.

Table 4.1: Structural Adjustment Program and Poverty in SSA, 1985 and 1990

Country	Head-count ratio (%)		Change in poverty (% points)	Change in macroeconomic policy (score)
	1985	1990		
Cote d'Ivoire	40.31	45.93	5.62	-1.3
Ghana	29.00	33.49	4.49	2.2
Kenya	53.17	58.83	5.66	0.5
Mauritania	32.17	35.52	3.35	0.5
Rwanda	31.59	37.94	6.35	-0.2
Senegal	49.65	54.75	5.10	0.5
Tanzania	53.53	59.79	6.26	1.5
Uganda	37.10	44.69	7.59	0.2
Zambia	48.53	52.54	4.01	-0.3
Zimbabwe	56.71	67.26	10.55	1.0
Source: Ali (1998)				

4.8. Low Level of Human Capital formation, Brain Drain and Lack of Technology Transfer

Human capital in the form of knowledge is said to make the difference between poverty and wealth. As the World Bank (1999:1) noted:

“Ghana and the Republic of Korea started with almost the same GNP/capita in 1960. Thirty years later the Korean GNP/capita had raised more than six times, the Ghanaian GNP/capita was still hovering at the same level (in 1985 prices). The evidence shows that half of the growth gap could be explained in terms of traditional factor inputs (in classical economic terms: land, labor, and capital), the other half was attributed to knowledge as a factor of production.”

Development policy targeting technology acquisition and the reduction of the technology gap must be aimed at facilitating the interaction between technology flows and human skills (Abramovitz, 1986). That was why East Asian countries have been successful in narrowing the technology gap in a few decades, and their educational attainment is credited for much of this achievement (Lall, 1992). Hence, as Nelson and Phelps (1966) suggests, a large stock of human capital makes it easier for a country to absorb the new products or ideas that have been discovered elsewhere. As a result, a follower country with more human capital tends to grow faster because it catches up more rapidly with the technological leader.

By the same token, endogenous growth theory has shown that differences in the level of countries' human capital lead to differences in their capacity (i) to invent new technologies, (ii) to adapt and implement technologies developed elsewhere, and (iii) to attract other factors such as investment in physical capital, which also contributes to economic growth and development. In short, the driving force

of growth is the accumulation of knowledge. Therefore, it is important to recognize that human capital accumulation is not "welfare"; rather, it is a productive investment with a very high payoff to individuals. At the national level, education and training require adaptation to these needs. Apart from improving capacities for managing diversification policies and training planners and policy makers so as to give them in-depth knowledge of existing channels and axes for possible industrialization based on diversification and the factor endowments of their countries, there should be a special focus on research and development with a view to promoting as well as disseminating and adapting innovation

On top of the low level of human capital formation in SSA which is under the threshold necessary to start a modern production system, the most critical constraint for the zero-sum game of human capital formation in Africa is the "brain drain." The exodus of highly trained manpower from developing countries to industrialized nations is not a new phenomenon; however, the magnitude of the problem in Africa and its alarming increase presents the growing urgency for action as the consequences of the brain drain threaten to stunt the overall development of the continent. Africa is a net exporter of its most talented human capital: several hundred thousand highly educated Africans live and work abroad, while over 100,000 experts from developed countries are currently employed in Africa.

Based on the International Organization for Migration (IOM) data, Barka (2000) explains that Africa has already lost one third of its human capital and is continuing to lose its skilled personnel at an increasing rate, with an estimated 20,000 doctors, university lecturers, engineers and other professionals leaving the continent annually since 1990 (table 4.2).

Table 4.2: Emigration of Skilled Africans to Industrialized Countries

Time Period	Average Annual Rate	Total Number
1960-1974	1,800	27,000
1975-1984	4,000	40,000
1985-1989	12,000	60,000
Since 1990	20,000	-

Accordingly, it has been estimated that there are over 300,000 highly qualified Africans in the Diaspora, 30,000 of which have PhDs. Paradoxically, Africa spends US\$4 billion per year (representing 35 % of total official development aid to the continent) to employ about 100,000 western experts as part of technical assistance. For example, 90% of private firms in Gabon are managed by expatriates.

Africa as a whole counts only 20,000 scientists (3.6 percent of the world total) and its share in the world's scientific output has fallen from 0.5% to 0.3% as it continues to suffer from the brain drain of scientists, engineers and technologists. Although the situation in Africa in general is quite alarming, the magnitude of the problem has reached quite disturbing proportions in certain African countries, with Ethiopia ranked first in the continent in terms of the rate of loss of human capital, followed by Nigeria and Ghana. Similarly, Ethiopia lost about 74.6% of its human capital from various institutions between

1980 and 1991 alone. By the same token, Sethi (2000) noted that about 50% of the Ethiopians who went abroad for training have not returned home for the last 10 to 15 years after completing their studies. Likewise, there is evidence that there are more Ethiopian-trained doctors in the city of Chicago alone than in Ethiopia. Similarly, Ghana lost 60% of its medical doctors in the 1980s, and between 600 to 700 Ghanaian physicians are currently practicing in the USA alone, a figure that represents 50% of the total population of doctors in Ghana. Likewise, UNDP (1993) indicated that more than 21,000 Nigerian doctors were practicing in the US alone. In 1997 only, more than 1,000 professionals left Zimbabwe. In Zambia, the public sector only retained 50 out of 600 doctors trained in the country's medical school from 1978 to 1999.

Though the adverse effects of the "brain drain" are on the overall development of the African continent, its effect on the health sector is particularly alarming. WHO recommends at least 100 nurses per 100,000 of population for the least developed countries; about 17 sub-Saharan countries have only 50 or fewer than 45 nurses per 100,000 population. According to the latest available data, which ranges from the 1990s to 2002, 13 sub-Saharan countries have five or fewer physicians per 100,000 populations (UNDP, 2003). For example, Malawi has only 17 nurses per 100,000 people. In contrast, many Western countries have more than 1,000 nurses per 100,000 people (Meeus and Sander, 2003).

The main causes of the "brain drain" can be categorized as "push" and "pull" factors. The *push factors* include: low and eroding wages and salaries, lack of satisfactory working conditions, under-utilization of qualified personnel, inadequacy of research funds, lack of professional equipment and tools, social unrest, political conflicts and wars, lack of freedom, etc. Similarly, the *pull factors* include: higher wages and income in the industrial nations, better job and career opportunities and professional development, substantial funds for research, political stability, and intellectual freedom.

While it is acknowledged that remittances from skilled migrants can contribute to boosting household welfare, it doesn't however, compensate and make up for the social costs and adverse effects on African economies as a result of the brain drain. Thus, what can be done to reverse the current brain drain in Africa? Strategies used in the past to reverse the brain drain include the retention and the return of skilled migrants to their countries of origin. However, many African countries have acknowledged that such efforts didn't work well. Instead, the new approach called "virtual participation" appears to be encouraging highly skilled expatriates to contribute their experience to the development of their country without necessarily physically relocating from their current place.

It was in the light of this consideration that the African Union (AU) adopted a resolution urging member states to develop strategies for utilizing the scientific and technological know-how and skills of the African Diaspora for the development of the continent. In fact, the AU considered the African Diaspora as the sixth region of Africa, after North, South, East, West and Central Africa. In a similar development, the New Partnership for Africa's Development (NEPAD) calls for the establishment of a reliable, continental database to determine the magnitude of the problem of the brain drain and promote

collaboration between Africans abroad and those at home. An important NEPAD priority is to develop Africa's human resources and reverse the brain drain. Therefore, African governments have to create the necessary political, social and economic conditions that would serve as incentives to curb the brain drain and ultimately to speed-up human capital formation as a driving force for sustainable and rapid economic growth.

4.9. Weak Intra-African Trade and Investment

Understanding how to accelerate and support transformation in Africa poses an important challenge to policy makers and economists. The policy passivity and "markets only" strategies of the 1980s and 1990s as promoted by the Washington Consensus largely failed to promote structural transformation and sustained growth in Africa.

External conditions in the global environment have also greatly impacted countries' transformations and are likely to remain important in the future. It is widely accepted that the end of World War II and the beginning of the Cold War significantly increased the support of Western countries for selected developing countries. Japan, Korea Republic, Taiwan, and other Asian countries benefited from this support, which is seen as a necessary condition for their successful transformation. From the late 1980s and early 1990s onward, the fall of the Berlin Wall provided new opportunities for many former socialist Eastern European countries and sparked their rapid economic growth and transition to market-based economies (Yergin and Stanislaw 1998). In line with this, strengthening regional integration in Sub-Saharan Africa is one of the key issues to be addressed by all levels of policy makers in the region so as to create the necessary economies of scale for the structural diversification of their economies.

For instance a study by Bosker and Garretsen (2008) has explicitly distinguished between the importance of access of each SSA country to other SSA markets and to the rest of world respectively. Accordingly they found that market access, and notably intra-SSA market access, has a significant positive effect on GDP per capita. This indicates that improving SSA market access through investing in intra-SSA infrastructure or through increased SSA integration will have substantial positive effects on its future economic development. Thus, as K.Y. Amoako (2000), the then chief executive secretary of the United Nations Economic Commission for Africa notes,

"For Sub-Saharan Africa, with a total income of not much more than Belgium's GDP, divided among 48 countries with median GDP of just over \$2 billion for each- about the output of a town of 60,000 in a rich country - regional integration is not just a matter of choice. It is a matter of survival in that jungle."

Thus, any development strategy that aimed to promote industrialization and diversification in SSA would not neglect the importance of regional integration in Africa. When we think of economic integration, we usually expect wider effects than those that tariff rate reduction will induce. One possible effect is the scale effect from integration. Another important effect of economic integration is that of monetary integration. Though not simple, monetary integration is usually considered desirable because it reduces the effects of exchange rate volatility on international trade. Africa should also consider alternative approaches to mainstreaming regionalism. Accordingly, Africa should consider focusing more on regional cooperation on joint infrastructure and trade facilitation projects and on policy harmonization coupled with liberalizing its trade regime on a most-favored-nation (MFN) basis. Creating an economic space where investors can produce for regional as well as global markets and paying more attention to multilateral negotiations to influence the trading rules, dismantling restrictive trade practices that inhibit export expansion and diversification may provide small economies of the region with better growth opportunities.

Thus, it is worthwhile to emphasize that weak physical and institutional infrastructure is the key obstacle to increasing intra-African trade and investment. Hence, African countries need to strengthen their regional physical infrastructure such as roads, railways, telecommunications, and regional airlines with a view to boosting regional integration and to spur mutual economic growth. Moreover, the physical infrastructure will need to be complemented by improvements in soft infrastructure, including policy harmonization at the regional level, trade facilitation, efficiency in border procedures and the adoption of national policies that help the process of integration.

4.10. Chapter Four's Conclusion

This chapter attempts to discuss the underlying constraints for SSA's low level of export diversification in particular and unsatisfactory economic performance in general.

While many developing countries which were formerly producers and exporters of few primary products have changed their comparative advantage by choosing to invest resources in the production of new high-value products with better export potential, Africa however has failed to increase its exports of manufacturing goods because it has not addressed the most binding constraints to export diversification, which are mainly structural, institutional, political, and also policy-oriented. There are different views as to why Africa concentrated only on the export of primary products. *On one hand*, as Wood and Mayer (2001) put it, the concentration of Africa's export in unprocessed primary products is largely caused by the region's combination of low levels of education and abundant natural resources. *On the other hand*, Collier (2002) argues that Africa's current comparative advantage in primary commodities is often due,

not to its intrinsic endowments or location, but to a poor investment climate that is mainly associated with policy distortions.

However, for many SSA countries diversification is in principle feasible, but has not occurred because dependence has certain trap-like features that make it persistent. The prime barriers of effective export diversification in Africa include policy distortions, poor infrastructure services, high risks and high transaction costs that inhibit competitiveness, low level of physical and human capital, very low levels of savings, high rates of population growth, and a very low rate of diffusion of technology from abroad. Moreover, the nature of African institutions and the quality of political regimes and leadership are also partially responsible for the low performance in economic development in general, and insignificant export diversification and structural changes in particular.

Thus, governments in SSA have to develop programs that promote diversification towards higher value added products. For instance, export promotion authorities in collaboration with exporters' associations could launch programs to collate and disseminate market information to producers and create a "diversification fund" with support from development partners. Apart from these, supply response via export diversification depends critically on complementary conditions: manpower skills and flexibility, infrastructure, and institutional factors. Where incentives, investments, and institutions are missing or inadequate, output responds weakly to any attempt at structural change on the economy. Moreover, economic interdependence has become the condition of survival for all countries and African countries should be more fully integrated into the world economy. The fact that trade liberalization may have a positive influence on the long-term growth of the economy in several ways are documented very well. Among these, trade promotes sectoral and product diversification, and export diversification in turn can be used as a catalyst for expanding trade through increasing export competitiveness. However, it should be noted that the experience of most of the East Asian countries shows that trade liberalization should take place in haste and therefore Africa needs to take a significant lesson with this regard.

Africa's future economic structural change and growth performance are highly dependent on mobilization of internal resources and creating adequate domestic capital, attracting foreign investment, investment in education (human capital), infrastructural development, diversification of its economies and exports mainly towards to more productive and dynamic value-added sectors (vertical export diversification), more access to the markets of the industrialized and industrializing countries, technological improvements, strengthening domestic markets, and strengthening regional cooperation, creating a stable and predictable macroeconomic and political environment, as well as a fair and an open trading framework.

Chapter Five

An Empirical Study of Factors Explaining Export Diversification in East Asia and SSA

Before we are going to examine the impacts of export diversification on economic growth⁸, the first-step of the empirical study will systematically identify the key factors explaining export diversification. According to Achen (2005), “two-step estimators for hierarchical models can be constructed even when neither stage is a conventional linear regression model. For example, the first stage might consist of probit models, or duration models, or even count models. The second stage might be a nonlinear regression specification.”

Thus, the theoretical justification for identifying the determinants of export diversification is presented below prior to conducting the first-step estimation. The aim of this chapter is, therefore, to provide greater detail on the policy determinants of export diversification, and thereby to contribute to the debate as to what might be an appropriate policy set for countries seeking to promote export diversification.

5.1. Determinants of Export Diversification

Though there is much less empirical work on the determinants of export diversification, based on the theoretical analysis discussed in chapter 2 to 4 and some related empirical studies on determinants of export diversification, such as Osakwe (2007), Glyfson (2002), Bebczuky and Berrettoni (2006), Elbadawi (1999), Wood and Mayer (2001), Munemo (2007), Herzer and Nowak-Lehmann (2006), Parteka and Tamberi (2008), Carrere, et al (2007), Dornbusch (1977), Acemoglu and Zilibotti (1997), and Imbs and Wacziarg (2003), the following determinants for export diversification have been identified:

5.1.1. Physical Capital

Traditional growth theory looks at capital accumulation as the most important determinant of export diversification. The physical capital (capital stock) of a given country consists of domestic-owned physical capital and foreign-owned physical capital. Accordingly, gross fixed capital formation as a share of GDP is used to capture the influence of the domestic investment in a fashion similar to Olofsdotter (1998) and others. Similarly, foreign capital is often captured by the ratio FDI to GDP. Thus,

⁸ The second-step estimation deals with analyzing the impacts of vertical and horizontal export diversification on economic growth, discussed in depth in chapter six.

it is imperative to further break down physical capital into domestic and foreign capital and examine their separate effects on both vertical and horizontal diversification.

5.1.1.1. Domestic Investment

Unless a country commits a sufficient portion of its national income to building domestic capital stock, it is unlikely to be able to diversify. Ben Hammouda et al (2006) underline that investment is vital for an economy to diversify since, as the level of investments increases, there is a tendency for economies to become more diversified. While increasing the level of domestic investment helps promote diversification, the sectoral allocation of investment is also crucial. To boost diversification, governments should therefore design incentive mechanisms to encourage domestic investment in new activities. Accordingly, there is empirical evidence that a country which invests a bigger proportion of its output in capital formation is likely to accumulate the necessary infrastructure and equipment more rapidly to allow the country to diversify its production basis (Habiyaemye and Zeisemer, 2006). Chile and Botswana provide good examples for such reasoning, where the accumulation of domestic capital is related to developing sectors other than the exploitation of primary commodities.

Likewise, the UN Under Secretary-General and Executive Secretary of the UN Economic Commission for Africa, Abdoulie Janneh (2009), argued that, "for the business sector in Africa to grow and contribute to poverty reduction and economic development, domestic investment as a proportion of GDP must improve from an average 18% in Sub-Saharan Africa to between 25% and 30%, which is the average rate in East Asia." Why the domestic investment ratio in East Asia so high is compared to SSA? It has been evident that most East Asian economies are also characterized by higher saving propensity than other developing countries, including SSA. For instance, the gross national savings of East Asia and the Pacific regions in 2003 were about 41.8% of gross national income compared to only 16.9% for Sub-Saharan Africa. Similarly, the net national savings for East Asia and the Pacific regions in the same year were about 32.6% of gross national income compared to 6.3 % of gross national income in SSA (World Bank, 2005). According to the Solow model, the saving rate is a key determinant of the steady-state capital stock. If the saving rate is high, the economy will have a large capital stock and a high level of output. If the saving rate is low, the economy will have a small capital stock and a low-level of output.

Kao and Tan (2001) explain that dynamism is not merely represented in the size of the markets or access to labor but also in growing enterprises and entrepreneurs. Hence, SMEs in many developing countries can be used as a vibrant source of capital accumulation. However, SMEs in Africa are largely neglected and hence a major effort is required by African policy makers to create conducive atmosphere for SMEs development. Nevertheless, any domestic investments including small and medium sized enterprises will be ultimately successful only if the enterprises have attained a level of knowledge that is adequate for accomplishing the tasks they face. It is also evident that domestic investment can be stimulated by macroeconomic and political stability. Hence, prudent fiscal and

monetary policies that are designed to combat inflation and enhance prudent economic management are of paramount importance. Generally, domestic capital is commonly captured by the ratio of gross fixed capital formation⁹ to GDP.

5.1.1.2. Foreign Direct Investment (FDI)

Two main theoretical perspectives may explain the impact of FDI on host countries' ability to diversify. On one hand, the neoclassical theory is based on a fundamental principle that export diversification can take an image of a production function and hence it requires capital investment. From the perspective of the new growth theories, the transfer of technology through FDI in developing countries is especially important because most developing countries lack the necessary infrastructure in terms of an educated population, liberalized markets, and economic and social stability that are needed for innovation to promote growth (Sanchez-Robles and Bengoa-Calvo, 2003).

Likewise, Saint-Paul (1992) and Obstfeld (1994) suggest that international capital mobility may affect productivity independently of investment, by promoting international risk diversification which induces more domestic risk taking in innovation activities, thereby fostering growth. Thus, FDI has many benefits for economies, particularly developing economies. Accessing foreign savings can help economies grow faster and, in the case of developing economies, catch up with rich economies (Barro, 1997). Thus, FDI can increase competition in the host economy, making domestic companies more efficient, and stimulates sectoral and product diversification.

By the same token, Kumar and Pradhan (2002) note that, apart from technology and capital, FDI usually flows as a bundle of resources, including organizational and managerial skills, marketing know-how, and market access through the marketing networks of multinational enterprises (MNEs). As a result, FDI plays a twofold function by contributing to capital accumulation and by increasing total factor productivity (Nath, 2009). Similarly, Acemoglu and Zilibotti (1997) explain that opening international capital markets generates flows from capital-abundant towards capital-scarce countries, thereby accelerating convergence (and hence short term growth) in the poor countries. In a more sophisticated model, productivity may also increase since capital inflows may relieve the economy from credit constraints and thus allow agents to undertake more productive investments. Additionally, FDI encourages the production and exports of non-traditional products.

On the other hand, dependency theorists argue that dependence on foreign investment is expected to have a negative effect on growth and the distribution of income. Bornschier and Chase-Dunn (1985) claimed that foreign investment creates an industrial structure in which monopoly is

⁹ Formerly, gross fixed capital formation was in fact known as gross domestic fixed investment in World Bank national accounts data and OECD national Accounts data files.

predominant, leading to what they describe as “underutilization of productive forces.” The assumption being behind this is that an economy controlled by foreigners would not develop organically, but would rather grow in a disarticulated manner (Amin, 1974). This is because the multiplier effect, by which demand in one sector of a country creates demand in another, is weak and thereby leads to stagnant growth in the developing countries. According to the dependency theorists, FDI could be a threat to young growing companies/firms with limited capital outlays as compared to the multi-national corporations (MNCs) since the young domestic firms will be unable to compete with the MNCs and their huge capital outlays. As a result, this could possibly lead to the extinction of such small local firms. Moreover, the critics further argue that FDI can have adverse effects on employment, income distribution, and national sovereignty and autonomy. FDI can also have adverse balance-of-payments if inputs need to be imported. Foreign reserves can also diminish when profits are repatriated. Thus, FDI is seen not to aid but to undermine the very process of development (Razin et al., 1999).

However, the experience of emerging economies especially FDI driven economies in East Asia confirm that FDI can provide the capital, technical and marketing know-how needed for export diversification in particular and economic structural change in general. Apart from these, FDI and domestic investment are complementary to each other. For instance, FDI complements domestic investment by working together with local firms in the form of ‘joint ventures’. All in all, there is a common consensus that the beneficial aspects of FDI outweigh the cost. Nevertheless, the higher productivity of FDI holds and contributes to export diversification only when the host country has a minimum threshold stock of human capital so as to create a sufficient capability of absorbing the advanced technologies in the host economy. For instance, Zhang (2007) studied 11 Latin American and Asian countries between 1970 and 1997 and reported that FDI was more likely to promote growth in Asia than in Latin America. Further, Zhang (2007) finds that FDI tends to promote economic growth when the host country adopts liberalized trade policies, improves education, and maintains macroeconomic stability. Similarly, Balasubramanyam et al. (1996), in a study of 46 countries from 1970 to 1985, report that the growth enhancing effects of FDI are stronger in countries pursuing a policy of export promotion rather than import substitution along with a highly educated workforce.

By taking the arguments on the benefits of FDI into account and coming to Africa, we find that the African region has not been successful in attracting a large amount of FDI compared to East Asia and Latin America, mainly due to the fact that Africa has a lack of an adequate skilled labor force that may participate in the investment sectors. It is ironic that while Africa is endowed with rich natural resources and abundant cheap labor, natural resource abundance and cheap labor are not enough to attract FDI for most countries. Instead, it is evident that in order to attract a reasonably large volume of FDI, it is necessary to invest in human capital and physical infrastructure as well as to establish and maintain sound macroeconomic stability and a policy environment conducive to investment.

Apart from the low level of FDI in Africa, the sector in which Africa receives FDI matters in its economic development. In East Asia, for example, substantial FDI went into the secondary sector thereby contributing to the *diversification of the export base* and to higher and sustained growth. Africa, on the other hand, receives FDI mostly in the primary sector, and so the benefits to the region have not been as significant as in East Asia. In this regard, a key challenge facing Africa is how to attract more FDI in dynamic products and sectors with high income elasticity of demand (Dupasquier and Osakwe, 2006).

Generally, foreign direct investment (FDI) may positively affect export diversification both directly and indirectly. First, FDI may lead to export diversification in the host country by improving the export intensity of industries in the non-traditional export sector. Second, FDI may indirectly encourage export diversification through spillover effects: that is, the presence of FDI in an industry may increase the export intensity of domestic firms. For instance, an empirical study by Banga (2006) reveals that FDI from the US in post-liberalization India is associated with large and oligopolistic firms producing differentiated products and this in turn has led to diversification of India's exports, both directly and indirectly.

5.1.2. Human Capital

Human capital is a part of the investment climate of an economy and is generally considered as factor complementary to physical capital. Cross-country differences in human capital significantly determine patterns of production and trade. In fact, there is an increasing consensus that “human capital” is the crucial resource for development throughout the developing economies, much more important than land, tools and labor (Ostrom, 1990; World Bank, 1998). Likewise, human capital theory has received consistent empirical support and has provided insightful explanations of individual and institutional behavior, including decisions about investment in higher education and health. This study, therefore, uses an *education* and *health* variable proxies to capture the human capital factor.

The education component of human capital refers to skilled labor, that is, skills acquired by individuals through a process of investment in education and training. A central tenet of human capital theory is that education increases productivity, and therefore leads to higher future earnings (Smart, 1985). Gross secondary school enrollment ration is estimated as the ratio of secondary school enrollment to the number of secondary school-aged children (usually children 12-17). It can be above 100 percent if some enrolled students are older or younger than the age group that officially corresponds to that level of education. Likewise, the health component of human capital which is often proxied by life expectancy at birth is also expected to play a positive role for enhancing export diversification and growth in a country's economy. For example, from 1975 to 2000, GDP per capita in Southeast Asia tripled while life expectancy rose from 54 years to nearly 70 years (ADB 2001).

Wood and Mayer (2001; 1998) also used an extension of the Heckscher-Ohlin model and examined what explains the differences in export structure between Africa and other developing countries and as a result they discovered that the difference arises from supplies of human and natural resources. In other words, education is considered as one of the key determinants for export diversification. It is obvious that more rapid growth of physical and human capital in a developing country's economy implies both a rapidly changing structure of the economy, including a rising share of manufacturing, and comparative advantage changing from the production and exports of traditional primary products to a more productive and value-added products. It is true that more highly skilled labor can produce higher-quality goods. For instance, Leamer (1984) finds that separating labor into three categories defined in terms of human capital is important in explaining world trade patterns for manufactured goods. It then becomes logically imperative that human capital should indeed be treated as a factor input just like physical capital and labor, and be regarded as one of the main driving forces of innovation and development (Roskamp and McMeekin, 1968). Thus, like physical capital, human capital can be improved, expanded, and made more productive through investment. Quite often this investment is undertaken by the government as there are society-wide benefits in expanding the educational, training, and health capacities of the population. In this view, then, the key to promoting productivity and economic growth is government investment in human capital (Psacharopoulos, 1988). Likewise, the new trade and endogenous growth theories have emphasized human capital accumulation and technological innovation as the main engines of structural export diversification and growth.

5.1.3. Infrastructure

It is obvious that infrastructural development in any country would reduce production costs, increase efficiency and productivity and thereby maximize profitability. Adequate infrastructure provides a very significant stimulus to private sector development, and to sectoral and product diversification. Hence, it is now recognized that investment in physical infrastructure, including transport services, telecommunications, power, and irrigation, can improve the productivity of all inputs in the production process and thus strengthen long-run growth performance by facilitating market transactions and the emergence of externally favorable conditions among firms or industries (Jimenez, 1995). In this respect, total factor productivity growth is a function of infrastructure endowment under the assumption that where infrastructure facilities are developed, it is easier for entrepreneurs to adopt new technologies and consequently generate technical progress and economic growth.

Moreover, good infrastructure is a necessary condition for foreign investors to operate successfully (Wheeler and Mody, 1992). Moreover, as Abuka (2005) notes, the availability of basic and good quality infrastructure is needed for the development and support of a vibrant manufacturing sector. Osakwe (2007) also conducted an empirical analysis for twenty-two African countries over the period

1985-2002 and found that the quality of infrastructure is critical to product and export diversification in the region.

The combined effects of low investment levels and poor infrastructure, together with dependence on primary commodities in SSA, has led to very low productivity levels and a correspondingly low level of capital accumulation that has been insufficient to trigger sizable manufacturing activity (Sachs et al, 2004). Cross-country studies by Canning and Bennathan (2000) indicate that infrastructure, particularly *telecommunications infrastructure*, significantly increases economic growth. Thus, new market access alone would not spur investment in new supply capacity unless it is supported by decent roads, efficient ports, and the technical capability to produce and distribute goods of sufficient quality, factors which are collectively called “exporting infrastructure”(Stiglitz, 2006). Furthermore, rural roads are a critical enabling condition for improving living conditions in rural areas, including those of the poor. Roads reduce travel time, facilitate marketing crops, enable small businesses and diverse economic activities, and improve access to public services. In this case, infrastructural development is one of the key prerequisites for better diversification.

5.1.4. Inflation

Macroeconomic stability plays a key role in the success of diversification efforts. Moreover, macroeconomic stability provides the private sector with a stable environment in which entrepreneurs and consumers are able to plan and invest and focus on production and performance rather than the environment in which they operate. In other words, macroeconomic stability is central to sustained growth. Otherwise, macroeconomic instability such as a high level of inflation damages diversification prospects and the tendency under such circumstances is for increased concentration with little opening-up of new export sectors. Similarly, a high inflation environment is not conducive to the development and maturation of new sectors. A high rate of inflation is generally harmful to growth because it raises the cost of borrowing and thus lowers the rate of capital investment; but at low, single-digit rates of inflation, the likelihood of such a trade-off between inflation and growth is minimal. At the same time, highly variable inflation makes it difficult and costly to forecast accurately costs and profits, and hence investors and entrepreneurs may be reluctant to undertake new projects. Moreover, a number of economic studies are available that associate higher inflation with lower productivity and with lower rates of growth (see Andersen and Gruen, 1995). Similarly, Fischer (1993) finds that, on average, a 1-percentage point rise in the rate of inflation can cost an economy more than one-tenth of a percentage point in its growth rate. Indeed, there is no consensus on what level of inflation is acceptable in reality. For instance, Bruno and Easterly (1998) explains that a moderate but a stable inflation rate may not slow down diversification. It is generally agreed that a high inflation rate of around 10 per cent may not be a problem. Sarel (1996) found that the negative effects of inflation increase sharply at higher rates of

inflation but are not important at rates of inflation below 8% or so. On the other hand, Bernanke et al (1999) emphasize that even moderate rates of inflation are harmful to economic efficiency and growth, and that the maintenance of a low and stable inflation rate is important, perhaps necessary, for achieving other macroeconomic goals. However, some recent studies suggest that the greater unpredictability of price changes associated with inflation may significantly retard economic growth, even at low levels of inflation (Judson and Orphanides, 1996; Hess and Morris, 1996). Generally, economic theory and evidence both support the idea that low and stable inflation promotes export diversification, economic growth and efficiency in the long run. Thus inflation targeting, perhaps together with other fiscal and structural reforms, can help create an environment in which an economy can do better.

5.1.5. Exchange Rate

Economic policy objectives such as low inflation, macroeconomic stability, and high growth and employment are affected differently by exchange rate regimes. The exchange rate often plays a more prominent role than the interest rate in the transmission mechanism of monetary policy (Vitale, 2003: 836). Especially for developing countries, it has been assumed that a depreciating currency is an appropriate macroeconomic fundamental to support increases in existing exports and ease potential exportable products into new markets. Such a result supposes two elements. First, it pre-supposes that the country already has export potential and that the depreciation has the price effect of making the exports cheaper for the foreign markets. It further assumes price-elastic export demand. Second, it also assumes that depreciation is supported by sound macroeconomic fundamentals and can maintain competitiveness in the international market.

The classical approach to devaluation as a remedy for a balance of payments deficit entails shifts in both expenditure and production; expenditure shifts away from imports toward domestic products, and production shifts out of goods and services for domestic use into exports. Both shifts contribute to the reduction in domestic absorption required to eliminate the balance of payments deficit. Opponents of the classical view make two apparently contradictory arguments about the effects of nominal devaluation. Much of the structuralism literature argues that nominal devaluation leads to contraction of demand and output. But another body of literature focuses on inflationary consequences. However, it is evident that inflation is mainly caused by expansionary fiscal and monetary policies rather than exchange rates.

Although policy prescriptions have generally assumed that exchange rate depreciation would stimulate exports and curtail imports, it is not always true in all cases. For instance, Abeysinghe and Yeok (1998) empirically investigated the impact of currency appreciation on exports in the case of Singapore and found that in the presence of high import content, exports are not adversely affected by currency appreciation because the lower import prices due to appreciation reduce the cost of export

production. This implies that the cushioning effect outweighs that of the effect of productivity gains on export competitiveness. Accordingly, Singapore is a particularly interesting case study as it has been experiencing sustained export growth despite an appreciating currency.

Thus, for domestic policy makers in the developing world, the question of the appropriate exchange rate regime and the level of the exchange rate is very challenging and politically sensitive as well. Specifically, policy makers must decide whether they prefer a strong or weak currency, while the dilemma of currency appreciation may reduce a country's international price competitiveness. On the other side, a depreciated currency reduces the purchasing power of the domestic population while it can strengthen competitiveness in the international market.

A similar study by Setzer (2006) explains that a nominal devaluation affects the economy through two types of channel: On one hand, devaluation tends to have a positive expenditure-switching effect. To the extent that the nominal devaluation exceeds in altering the real exchange rate, it increases the price of imports relative to domestic goods, thereby lowering imports and stimulating the demand for exports and non-tradables. On the other hand, devaluations have an expenditure-reducing effect. As a result of devaluation, the domestic price level will go up. The rise in the price level has in turn two consequences. First, it reduces private spending and aggregate demand. Second, it also provokes the redistribution of income because it shifts income from wage earners to profit recipients. Since profit recipients have a higher marginal propensity to save than wage earners, the distributional effect places an additional contractionary effect on the domestic economy. Thus, the domination of either of the two channels (expenditure switching or expenditure reduction) crucially depends on the sensitivity of trade flows to changes in relative prices. The combination of the expenditure switching and expenditure reduction effects will be positive if quantities respond a change in prices between domestic and foreign goods (terms of trade). In the short term this is clearly not a realistic scenario. Due to fixed contracts, it takes time until the shift in the terms of trade results in an improvement of the current account. As described by the well-known J-curve effect, the trade balance may be worsened shortly after devaluation and then see a gradual improvement thereafter.

5.1.6. Degree of Openness

Generally, there is a growing consensus that suggests trade liberalization is vital; but it should follow a gradual approach. The proponents of a gradual approach to trade liberalization point out that there are inherent constraints in countries that limit their ability to build a competitive advantage to export new products in a short period of time. As such, they argue for a policy space that would allow them to pursue policies conducive to diversification through industrialization (UNECA, 2007).

In the standard neo-classical model, opening international capital markets generates flows from capital-abundant towards capital-scarce countries, thereby accelerating convergence (and hence short term growth) in poor countries. Similarly, the catching-up theory explains that, other things being equal,

the faster the rate of innovation in advanced economies, the higher the scope of growth via imitation for laggard economies. Given that technology flows from the leader to the follower via international trade, *ceteris paribus*, the higher the degree of trade liberalization (openness), the faster the diffusion process will be (Baumol et al., 1994). Similarly, the World Bank (1993) found that openness had a statistically positive impact on total factor productivity (TFP) growth in its study of 51 countries for the 1960-89 period. As a result, openness is positively associated with diversification.

On the other side, if trade liberalization leads to a faster growth of imports than exports and worsens the balance of payments, and deficits cannot be financed by sustainable capital inflows, this has serious consequences for the growth of output and living standards. Thus, countries need to take great care in the sequencing the liberalization of exports and imports to achieve a better balance between export and import performance. Hence, the intuition is that greater openness may confer benefits on countries, but it may also impose costs, particularly in the short term.

Generally, there is an emerging consensus in the empirical international trade literature that the extent of trade liberalization affects the level of export diversification. Several recent papers have found that tariffs faced by countries significantly contribute to shape their export extensive margins, i.e., their ability to export new products. Most of them take as benchmark the Ricardian model that precisely predicts a reduction in trade barriers leads to an increased range of exported goods (see Dornbusch et al., 1977, and Venables, 2003).

5.1.7. Income per capita

The level of development, as measured by real per capita income, is also one of the important determinants of export diversification. Acemoglu and Zilibotti (1997) provide a theoretical framework which emphasizes limited diversification opportunities at lower levels of development because of the scarcity of capital and indivisibility of investment projects. Growing GDP *per capita* is usually linked with dynamic changes regarding the quality of institutions, human capital or widely understood conditions for ‘doing business’ which all together favors more dynamic and heterogeneous economic structure. Development goes hand in hand with better diversification climate and that is also why more diversified (*i.e.* less specialized) structures of economic activity can go in parallel with higher levels of *per capita* output. Similarly, Imbs and Wacziarg (2003) find that countries at higher levels of income are likely to be more diversified than those at lower levels of income. On the other hand, at a certain stage of income per capita, usually when a country reaches the level of high income developing countries or joins the developed countries, diversification decreases and the economy starts to re-concentrate on selected specialized products. However, since almost all countries in this study except Japan are classified as developing countries, the relationship between income per capita and export diversification is expected to be positive.

5.1.8. Foreign Aid

The relationship between foreign aid and export diversification is not conclusive. The traditional justification for foreign aid is that it eases the resource constraints of developing economies, especially on the supply side (Munemo et al., 2007). In this case, therefore, foreign aid is expected to have a positive coefficient for export diversification. By the same token, Burnside and Dollar (2000) examine the effect of aid on economic growth, using standard cross-country panel regressions that include an interaction term of aid with a policy index; they find that aid has a positive impact on growth in developing countries as long as these countries have sound macroeconomic policies. The policy implication of this finding was straightforward. Policy makers at international aid agencies could now argue that development assistance can contribute to poverty reduction in countries with good policy environments (Kourtellos et al., 2007).

However, foreign aid can also harm export diversification, due to its potential impact on the real exchange rate. The idea is that large aid inflows have the potential to increase the price of non-traded goods which may lead to a real exchange rate appreciation and loss of export competitiveness. This effect is likely to be more severe in economies with capital market imperfections and in the manufacturing sector (Osakwe, 2007). According to Van Wijnbergen (1985), one of the explanations for the lack of export diversification in Africa is the negative role of foreign aid. However, it can be argued that if properly managed, foreign aid would have a multiplier effect on the economy, especially in improving infrastructure and human capital in African countries, as has already been witnessed in East Asia.

From the preceding discussion, therefore, it can be assumed that the foreign aid variable may have either a positive or negative relationship with export diversification.

5.1.9. Political Stability

Both political stability and macroeconomic stability are essential if markets are to work effectively in guiding resource allocation and fostering confidence among economic agents in the economy. Almost all the rapidly growing East Asian countries experienced periods of political stability during the key development years and such political stability has enabled governments in East Asia to implement long-term plans into reality and to avoid short-termism. On the contrary, political instability in most SSA countries was one of the factors behind Africa's poor economic performance during the last three or four decades. For instance, relatively greater political stability combined with sound macro-economic policies in Africa in recent years has resulted in an encouraging economic performance.

Various measurements of political instability have been suggested. Early studies used measures for changes in the political system, such as the number of revolutions, riots or politically motivated assassinations. More recently, a number of studies have used the frequency of government changes as signs of political instability, neither discriminating between regular and irregular changes nor

considering whether the new leaders belongs to the same political party as their predecessors or not. However, the use of such frequency measurements as an index for political instability may lead to an underestimation of the true level of political instability. This is the case when there is serious political turmoil that does not result in a change of government (Siermann, 1998:30). In view of these difficulties and because of the very nature of political instability in developing countries, the number of wars in a country as recorded by Collier and Hoeffler (2004) for countries which suffered from war during the period under study has been proposed as a better proxy of political instability.

Generally, previous studies confirm that a more durable political regime is in a better position to put in place measures that are needed to improve the prospects for successful export diversification (Sandbrook, 1986).

5.1.10. Labor force

The domestic market size of a country can be proxied either by the size of its population or GDP size. Endogenous growth theory indicates that countries with a larger population and a larger market size are expected to grow faster because of economies of scale. Countries with larger population sizes are more likely to develop varied skills that can be deployed in different fields. Likewise, countries with their populations spread over a large geographical areas can benefit from distinct regional specialization, and by extension, a large measure of national export diversification. Although the working age population (between 15 and 65) is the best variable with which to measure the effects of scale, the data on the labor force raise major problems of measurement, especially for poorer countries. In this case, therefore, the total population instead of the working age population can be considered (Barro. and Sala-i-Martin, 1999).

5.1.11. Natural Resource Endowment

First, it has been argued that specialization in primary products does not favor convergence due to the relatively low rate of technological progress in the primary sector and the secular declining trend of the relative prices of its products (see Prebisch, 1950; and Singer, 1950). Second, countries in which natural resources account for a large share of their exports are particularly likely to suffer from “Dutch disease”, i.e., periodic booms in those products lead to a real appreciation that makes more difficult for other exporting or import-competing sectors, typically manufacturing, to retain or gain international competitiveness (see Corden, 1980; and Corden and Neary, 1982).

The conventional view in the early development literature was that a sizeable endowment of natural resources helped countries to grow (Lewis, 1955; Rostow, 1960; and Viner, 1952). Natural resources were regarded as a part of a country's capital to be included in the production function, which could be converted into an output to be consumed or into another form of capital that would raise future output. Moreover, the World Bank (2002) argues that resource abundance can bring about

technological progress and new knowledge. This view has been challenged by a large literature on why countries might suffer a “curse” rather than a “blessing” as a result of natural resource abundance.

On the other hand, however, various studies including Sachs and Warner (2001) find a negative relationship between resource abundance and growth. Similarly, Glyfason (2001) indicates an inverse relationship between resource intensity and education, which according to the author implies that natural resource-based economies might not have the incentive to invest heavily in human capital accumulation. In other words, the Rybezynski theorem also suggests that development of new natural resources such as oil or gas may retard development of other lines of production such as manufactures through the “Dutch Diseases” effect. This “Dutch Disease” effect was named after the experience of the Netherlands, where increased oil and gas revenues in the late 1950s resulted in the appreciation of the Dutch Guilder and loss of export markets and de-industrialization.

Similarly, Wood and Mayer (1998) have emphasized that the concentration of Africa’s exports on un-processed primary products is caused largely by the region’s combination of low levels of education and abundant natural resources. An economic irony is that those countries blessed with abundant natural resources tend to grow more slowly than their resource-poor counterparts (Sachs, 2001). By the same token, Breisinger and Thurlow (2008) explain that dependency on exports of a few natural resource products and the associated adverse impact of economic diversification can significantly constrain a resource-rich country’s development path.

Reliance upon oil and other commodities is deeply problematic for African nations wishing to avoid the typical “resource curses” that tend to accompany overdependence on a few primary commodities and/or hoping to move beyond being suppliers of primary products. One risk is that even if there is a commodity boom, it might prevent governments from undertaking the necessary measures to make growth sustainable in the medium term (i.e., investment on human capital, infrastructure, institutional reform, etc.). Over-reliance on commodities such as oil threatens to make African nations even more vulnerable to negative price shocks. Furthermore, if receipts accrue from oil exports, there is a very real temptation for local elites not to diversify their economies (Taylor, 2006). Moreover, natural resource endowment and currency overvaluation usually go together and this undermines the competitiveness of export-oriented manufacturing sectors.

However, this doesn’t mean that natural resource abundance is always a curse. In fact, resource rich low income countries could diversify into resource based manufacturing or processing of primary commodities instead of following the conventional path of low skill manufacturing (Bonaglia and Fukasaku, 2003). For instance, Sweden and Finland at the beginning of 20th century and Thailand and Malaysia more recently are good examples of how resource-rich countries could diversify into value-added agro-industries and resource-based manufacturing. Accordingly, Malaysia pursued the development of its resource-based sectors (mainly palm oil and rubber), while Thailand focused on diversification in agriculture and fishery-resource-based manufacturing, before both countries moved

into other types of manufacturing exports such as clothing and electronics. Following other previous researchers such as Osakwe (2007), natural resource endowment in this study is proxied by two variables: the *arable land ratio* and the *oil dummy*.

5.1.12. Regional Dummy

It is also important to include a regional dummy variable in panel data analysis to capture other factors which are not already included in the model related to regional differences in export diversification. For instance, there are higher levels of technology spillovers in East Asian countries, mainly because of their geographical proximity to Japan; whereas such kind of economic power is absent in the case of SSA.

Cultural factors are another point, given that *Confucian* teachings and philosophies are deeply rooted in most of the East Asian countries, which influences personal and government behavior through an emphasis on justice and sincerity, loyalty, hard-work, and saving. Furthermore, the physical geography of SSA is sometimes blamed for its poor economic performance through its effects on high transportation and transaction costs as well as through its adverse effect on a country's access to international markets.

Based on the recognition that there are such relevant geographical characteristics, a regional “dummy variable” is introduced in this study.

5.2. Data Type and Sources

The above-mentioned determinants, their expected relationship with export diversification, and the respective data sources are summarized in Table 5.1.

Table 5.1: Independent variables of export diversification, their expected signs and data sources

Variable	Indicator	Expected sign	Data Sources
Domestic Capital	Ratio of GFCF to GDP	+	WDI Database
FDI	Ratio of Net FDI to GDP	+	WDI Database
Human Capital	1. Secondary School Enrollment Ratio to total population with age 15 and above. 2. Life Expectancy at Birth	+ +	Barro- Lee (2001) supplemented by WDI, especially for data beyond 2000. WDI Database
Quality of infrastructure	Number of fixed and mobile telephone per 1000 person	+	WDI Database
Inflation	Rate of change of the GDP deflator;	-/+	WDI Database
Exchange Rate	Exchange rate of local currency with that of US \$	+	Summer et al (2006) Penn World Table Version 6.2
Openness	Degree of openness based on Sachs and Warner (1995) in percentage.	+	Summer et al (2006) Penn World Table Version 6.2
Income/capita	Real per capita GDP (PPP based) in US \$	+	IMF Database
Political Instability	Collier and Hoeffler's (2004) 'War dummies' for countries suffered from war during the period under study.	-	Collier and Hoeffler (2004) war index tables
Aid per capita	Official development assistance/capita in US \$	+/-	WDI Database
Labor force	Size of population in number	+	Summer et al (2006) Penn World Table Version 6.2
Resource Endowment	1. "Oil Dummies"- (=1 if a country has oil; otherwise=0) 2. Arable Land Ratio (% of total land area)	- +/-	Various Statistics of each countries WDI Database
Regional Dummy	Africa dummy	-	

5.3. Research Methodology and Estimation Methods

5.3.1. Measuring Export Diversification

There are quite few methods, which explain either export concentration (i.e. specialization) or diversification in a given time and space by a single indicator. The usual measurement is the Herfindahl-Hirschmann Index (HHI) which is available from UNCTAD's *Hand Book of Trade and Development Statistics*, and is measured at the three-digit SITC level. Although this indicator is detailed enough, it doesn't capture the essence of both vertical and horizontal diversification (Agosin, 2005). Thus, considering the objective of examining the determinants of vertical and horizontal export diversification, the following approach has been used, similar to approaches by previous researchers.

5.3.1.1. Vertical Export Diversification

An increasing export orientation of the manufacturing sector, accompanied by a rising share of manufactures in total exports, is a part of the “normal” pattern of structural change in the growth process of developing countries. Since vertical diversification (VDIV) mainly implies moving out of primary into manufactured exports, it can be measured by the share of manufactured exports to total exports (Elbadawi, 1999; Wood and Mayer, 2001; Munemo, 2007; Osakwe, 2007; Matthee and Naude, 2007; and others).

$$\text{VDIV} = (\text{TMX}) / (\text{TX}) \quad (1)$$

where, VDIV is the index of vertical diversification, TMX is the value of total manufactured exports, and TX is the value of total exports.

5.3.1.2. Horizontal Export Diversification

Similar to the works of Herzer and Nowak-Lehmann (2006), Matthee and Naude, 2007, Taylor (2007) as well as Feenstra and Kee (2004), horizontal diversification (HDIV) in this study implies an increase in the number of export products and has been proxied by the *number of export commodities (varieties)* classified by the Standard International Trade Classification (SITC) at the three-digit level. As Dennis and Shepherd (2007:5) note, using a direct measure, namely a count of the number of products that a country exports, is not as simple as it seems because individual “products” identified in the trade data usually map in reality to a number of distinct export varieties. In other words, this simplified method can clearly measure how far a country has broadened the range of its products for export. Thus, the maximum value of the index is 239, and its minimum (theoretical) value is zero, for a country with no exports. UNCTAD annually presents information on the number of products, based on those products that are greater than \$100,000 in value or more than 0.3 per cent of the country total exports.

5.3.2. Model Specification for Export Diversification

Based on the theoretical justifications made to identify determinants of export diversification that have been discussed earlier, and by following similar approaches such as Osakwe (2007), Glyfson (2002), Bebczuky and Berrettoni (2006), Elbadawi (1999), Wood and Mayer (2001), Munemo (2007), Herzer and Nowak-Lehmann (2006), Parteka and Tamberi (2008), Elbadawi (1999), and Agosin (2007), the econometric model that combines the explanatory variables explaining vertical and horizontal export diversification in a given country (i) at period t takes the form:

$$\text{VDIV}_{it}/\text{or HDIV}_{it} = \mathbf{X}_{it} \boldsymbol{\beta} + \varepsilon_{it} \quad (2)$$

where $\boldsymbol{\beta}$ is a vector of regression coefficients to be estimated; \mathbf{X}_{it} is a matrix of the explanatory variables displayed in Table 5.1; and ε_{it} is a vector of disturbances or random error terms.

Thus, the simplified specification of this model will take the functional form:

$$\text{DIV}_{it}/\text{or HDIV}_{it} = \beta_0 + \beta_1 \text{HUMCAP}_{it} + \beta_2 \text{DOMINV}_{it} + \beta_3 \text{FDI}_{it} + \beta_4 \text{INFR}_{it} + \beta_5 \mathbf{Z}_{it} + \varepsilon_{it} \quad (3)$$

where, α , β_1 , β_2 are constants, i indexes the countries under study, t denotes the year, while VDIV and HDIV refer the vertical and horizontal diversification indexes respectively and can be estimated one after the other; HUMCAP and DOMINV, FDI, and INFR are the measures of human capital stock, domestic capital, FDI, and infrastructure, respectively; \mathbf{Z}_{it} represents the set of additional explanatory variables as mentioned in table 5.1; and ε_{it} is the error term.

Additionally, there is a sensible presumption that investments in physical capital, human capital and other explanatory variables have mostly a delayed impact on diversification (Bebczuk and Berrettoni, 2006). In this case, explanatory variables with *one-year lag values* can be used in the model. The use of lagged explanatory variables has an additional advantage to deal with their potential *endogeneity* problems provided that future values of the export diversification index have no influence whatsoever on the control set. Thus, the export diversification model finally takes the form:

$$\text{VDIV}_{it}/\text{HDIV}_{it} = \beta_0 + \beta_1 \text{HUMANCAP}_{it-1} + \beta_2 \text{DOMINV}_{it-1} + \beta_3 \text{FDI}_{it-1} + \beta_4 \text{INFR}_{it} + \beta_5 \mathbf{Z}_{it-1} + \varepsilon_{it-1} \quad (4)$$

In order to choose the most appropriate estimation techniques, it is first important to conduct specification tests including the Hausman specification test, test of heteroscedasticity, test for serial correlation, and stationarity test.

Accordingly, Hausman's (1978) specification test was conducted and the result confirms that a fixed effect model estimation method is not appropriate for this particular study. Similarly, a White's general test for *heteroscedasticity* was conducted and the result rejected the null hypothesis of *homoscedasticity*. Similarly, Wooldridge's tests for autocorrelation in panel data were conducted and the null hypothesis that there is no first order autocorrelation was rejected. This implies that both heteroscedasticity and serial correlation are detected. According to Wooldridge (2002:178), if heteroscedasticity is detected but serial correlation is not, then the usual heteroscedasticity-robust standard errors and test statistics from the pooled OLS regression can be used. However, if both heteroscedasticity and serial correlation are detected with a strict exogeneity assumption, it is reasonable to consider a Feasible General Least Square (FGLS) analysis. Likewise, Gujarati (2003) suggests that a FGLS estimator accounts for a known structure of the error variance (heteroscedasticity), serial correlation pattern in the errors, or both, via a transformation of the original model.

Thus, a FGLS analysis that accounts for a known structure of the error variance (heteroscedasticity), a serial correlation pattern in the errors via a transformation of the original model was performed using STATA software.

In line with this, a Levin-Lin-Chu panel unit root test was performed and the null-hypothesis of non-stationarity was rejected at the 1% significance level. In other words, the data are stationary. The unit root test for panel data is a recent innovation and it was previously practiced only on pure time series data analysis (Baltagi, 1996).

5.4. Empirical Results and Main Findings

5.4.1. Descriptive Statistics

The mean values of the dependent and independent variables used in the analysis for the full sample are displayed in Table 5.2. Accordingly, the average vertical diversification index as measured by the share of manufactured export to total export was found to be 26.8 % with a sample range of 0 (minimum) and 100 % (maximum). Similarly, the average horizontal diversification as measured by the number of export products in the SITC three digit classification of international trade is 94 with a minimum range of 2 and a maximum range of 231.

Domestic investment, which is captured by the ratio of GFCF to GDP, has a mean value of 20% with a range of a -24 % (deficit) and 61 % (maximum). This implies that though domestic investment contributes to about 20% of GDP on average, the countries embraced in this study are very heterogeneous in their domestic capital formation capacity, with which some countries like Mauritania experiencing negative domestic capital formation (-24 % of GDP) in 1994, while other countries such as Gabon performed very well to the extent that domestic investment contributed about 61% of GDP in 1976. Likewise, the average value for the ratio of FDI to GDP is nearly 2% and ranges from -29% (minimum) for Sierra Leone in 1986 to 47 % (maximum) for Chad in 2002, perhaps because its new oil fields attracted significant FDI in that particular year.

The education component of human capital as measured by the secondary school enrollment ratio has an average value of about 18% that varies from 0.1% (minimum) for Mali in 1974 to 62% (maximum) for the Korea Republic in 1990, indicating the wide gap among countries with regard to investment in human capital. Similarly, the health component of human capital as measured by life expectancy at birth has a mean value of 54 years, but with a range of 36 years (minimum) for Zambia in 2003 to 82 years (maximum) for Japan since 2002. In the same way; the mean, minimum, and maximum values of the remaining explanatory variables for the full sample are shown in table 5.2 below.

Table 5.2: Descriptive Statistics of Variables for the Full Sample

Variable	Mean	Std. Dev.	Min	Max
Vertical Diversification	26.805	29.938	0	100
Horizontal Diversification	94.007	76.557	2	231
Domestic Investment	20.129	9.317	-24	61
Foreign Direct Investment	1.995	4.064	-29	46.7
Education	17.769	15.114	0.1	61.9
Health (Life Expectancy)	54.304	10.905	36	82
Level of Development	3.158	0.484	2.2618	4.471
Population (log population)	4.027	0.720	1.772	6.110
Quality of Infrastructure	0.987	0.846	0	3.241
Degree of Openness	72.946	61.287	0.85	425.34
Inflation Rate	49.247	31.941	11.88	371.85
Oil Dummy	0.146	0.354	0	1
Arable land Ratio	39.007	20.655	1	91
Aid per capita	8.787	10.223	0	99
Exchange Rate	1.532	1.848	-11.777	4.376
Political Instability	0.293	0.455	0	1
Africa Dummy	0.146	0.354	0	1

In order to examine the wide gap between East Asia and SSA's performances, it is much better to look the descriptive statistics of the sub-samples (SSA and East Asia) in depth as shown in table 5.3. As measured by the mean, the East Asia sub-sample exhibits a vertical diversification of 70% while SSA has a mean vertical diversification of nearly 15%, which confirms that East Asia has made a very significant and dynamic transformation in its economy towards the manufacturing sector; whereas SSA has achieved very little in economic structural change and as a result the manufacturing exports in SSA account for only 15 % of the total exports compared to 70% in East Asia. Again, the average number of export products in East Asia is found to be about 202, while in SSA it is only about 64, which implies that countries in SSA are still much more dependent on the export of a few commodities. The same is true regarding the ratio of gross fixed capital formation to GDP, which is about 30% in East Asia while it is only 17% in SSA, which implies low domestic savings and investments in SSA, while the opposite is true for East Asia.

Another striking point is the secondary school enrollment ratio which is about 35% in East Asia, while it is only 13% in SSA. This again indicates how East Asia has invested remarkably in education while SSA's investment on education has been found to be small. Likewise, the mean life expectancy at birth in SSA is estimated to be about 50 years, whereas it is about 70 years in East Asia. This implies that East Asia's performance both in the education and health aspects of human capital has been extremely impressive while the opposite is true for SSA's performance for the last three decades. By the same token, the mean arable land ratio to total land is about 43 % in SSA; while it was only about 24 %

in East Asia. This highlights the fact that SSA has a large natural resource endowment in arable land that could have been utilized for more agricultural production and related sectors. The same comparison for all variables confirms the huge gap that exists between the performances of the two regions (table 5.3).

Table 5.3: Descriptive Statistics of Variables for the Sub-Saharan Africa and East Asia

Variable	Sub-Saharan Africa				East Asia			
Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Vertical Diversification	14.633	15.936	0	81	70.081	27.946	2	100
Horizontal Diversification	63.734	54.402	2	256	201.641	36.436	86	235
Domestic Investment	17.421	8.186	-24	61	29.757	6.201	16	48
Foreign Direct Investment	1.464	3.5628	-29	46.7	3.883	5.063	-3	37.1
Education	13.075	11.739	1	57	34.458	13.936	6.9	61.9
Life Expectancy	49.938	7.291	36	73	69.83	6.617	47	82
Level of Development	3.013	0.370	2.262	4.249	3.671	0.490	2.302	4.471
Population (log population)	3.847	0.6027	1.772	5.127	4.665	0.740	3.348	6.11
Quality of Infrastructure	.727	.6395	0	2.956	1.911	0.847	0.301	3.241
Degree of Openness	61.201	31.534	0.85	209.34	114.706	106.644	9.6	425.34
Inflation Rate	48.015	31.367	11.88	371.85	53.628	33.597	12.12	193.8
Oil Dummy	0.156	0.363	0	1	0.111	0.315	0	1
Arable Land Ratio	43.160	19.999	8	91	24.237	15.575	1	60
Aid Per Capita	11.119	10.441	0	99	0.496	0.678	0	3
Exchange Rate	1.551	2.017	-1.77	4.376	1.461	1.043	.149	4.011
Political Instability	.313	.464	0	1	0.222	0.417	0	1

Figures 5.1 & 5.2 also demonstrate the divergent trend in vertical and horizontal diversification in SSA and East Asian countries from 1975 to 2004.

Figure 5.1: Vertical Export Diversification in SSA and East Asia, 1975-2004

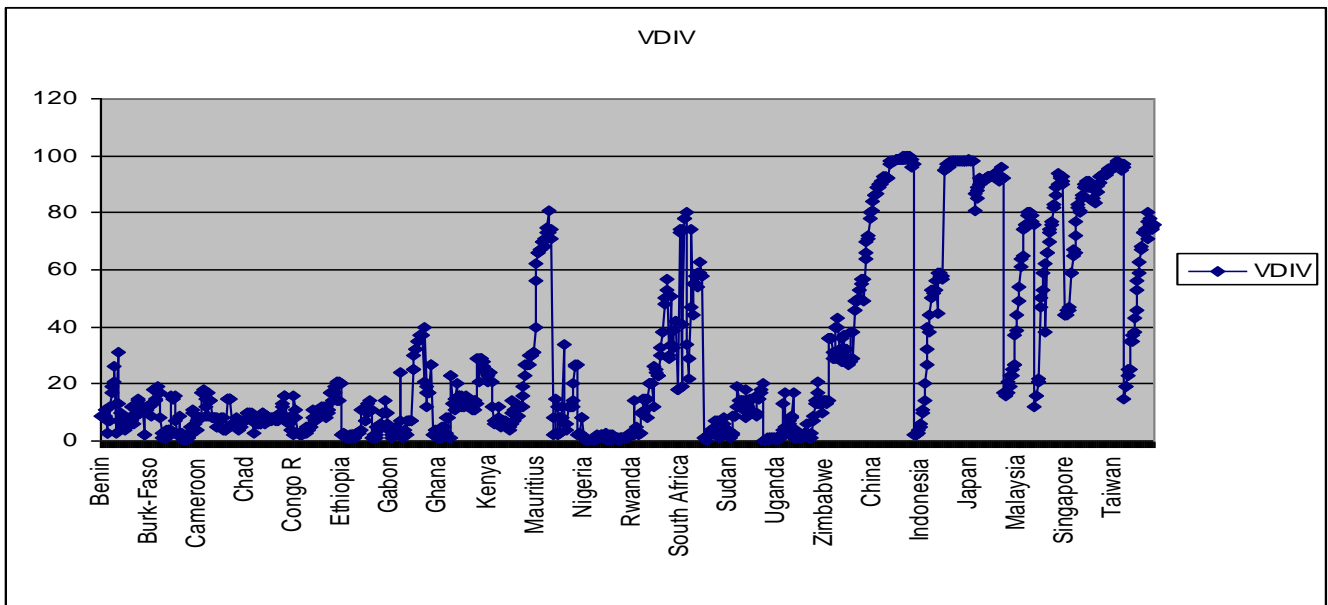
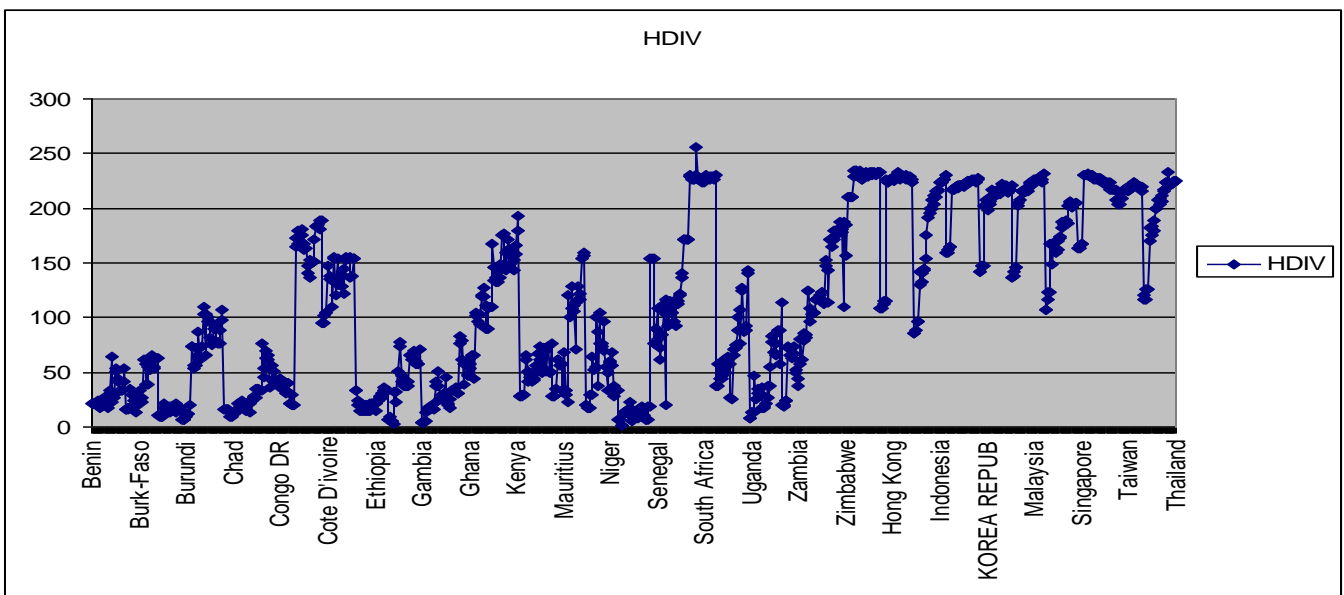


Figure 5.2: Horizontal Export Diversification in SSA and East Asia, 1975-2004



Similarly, figures 5.3 & 5.4 highlight the divergence performance gap of East Asia and SSA countries from 1975 to 2004, related to vertical and horizontal diversification respectively.

Figure 5.3: Vertical Export Diversification in SSA and East Asia, 1975 and 2004

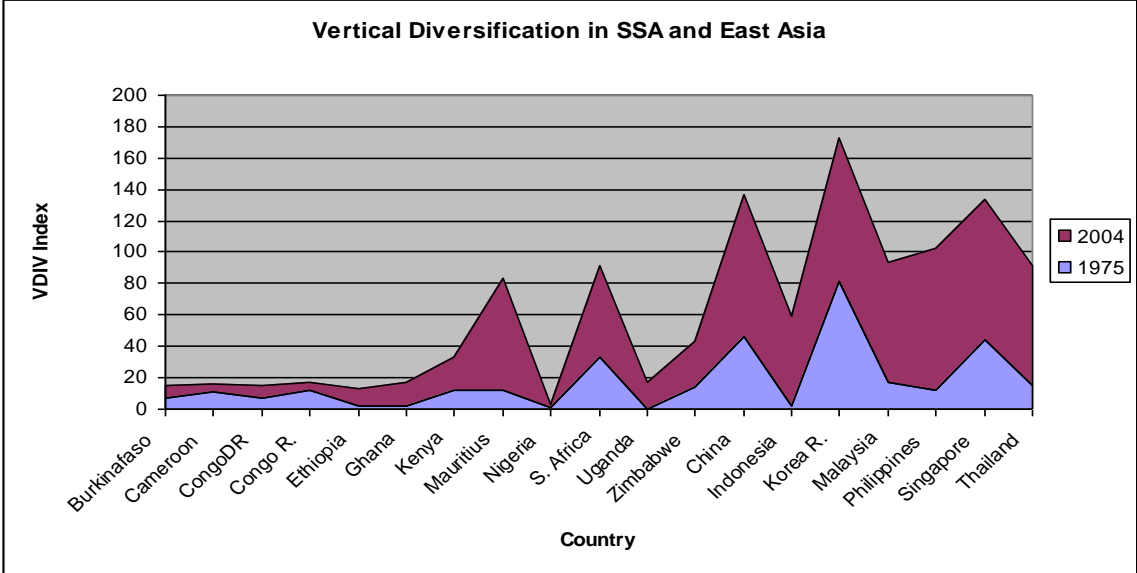
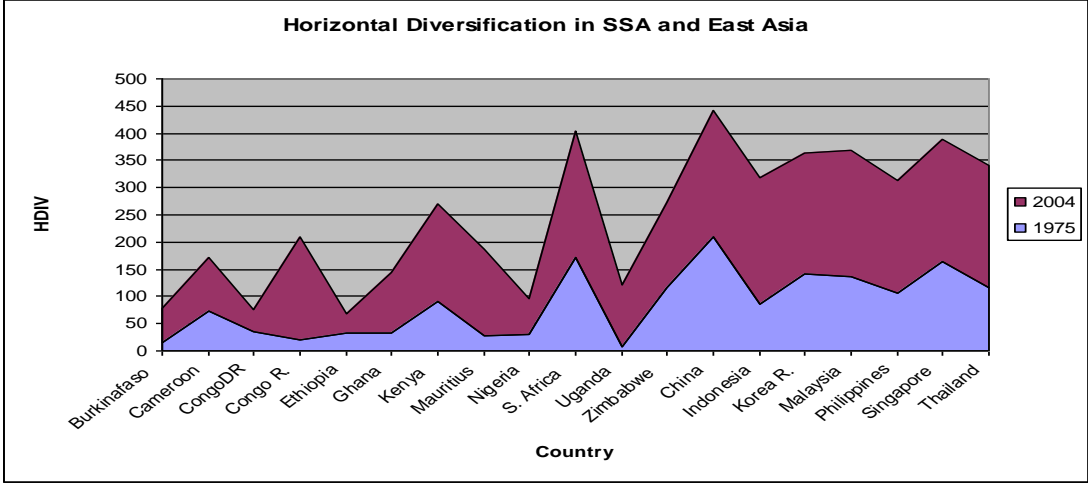


Figure 5.4: Horizontal Export Diversification in SSA and East Asia, 1975 and 2004



5.4.2. Partial Correlations

The correlation coefficients of vertical export diversification as well as horizontal export diversification have been estimated for all independent variables and are shown in table 5.4. Hence, it is evident that FDI, education, income per capita, population size, degree of openness, and depreciating exchange rate

are all positively and significantly correlated with vertical as well as horizontal export diversification. The quality of infrastructure and oil dummy variables have been found to be positively and negatively correlated with vertical diversification respectively. On the other hand, the arable land ratio and aid per capita are both positively and significantly correlated with horizontal export diversification.

Table 5.4: Partial Correlation of VDIV and HDIV with the Independent Variables

Variable	VDIV		HDIV	
	Corr.	Sig.	Corr.	Sig.
Domestic Investment	0.0423	0.141	0.0238	0.408
Foreign Direct Investment	0.0722	0.012**	0.0915	0.001***
Education	0.0687	0.017**	0.1651	0.000***
Life Expectancy	0.0435	0.129	0.0440	0.126
Income per capita	0.1936	0.000***	0.2650	0.000***
Population (log population)	0.2033	0.000***	0.5681	0.000***
Quality of Infrastructure	0.1214	0.000***	0.0030	0.917
Degree of Openness	0.0598	0.037**	0.3221	0.000***
Inflation Rate	0.0309	0.282	0.0268	0.350
Oil Dummy	-0.2995	0.000***	-0.0179	0.533
Arable Land Ratio	-0.0368	0.1999	0.1453	0.000***
Aid Per Capita	0.0228	0.427	-0.0835	0.004***
Exchange Rate	0.0867	0.002***	0.0861	0.003***
Political Instability	-0.0299	0.297	-0.2158	0.000***
Africa Dummy	-0.2961	0.000***	-0.1482	0.000***

***P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.**

Moreover, an attempt has been made to examine the relationship between income per capita and export diversification (both vertical and horizontal) so as to test the validity of Imbs and Wacziarg (2003) hypothesis, based on the evidence from two low income SSA countries (Ethiopia, and Ghana), two developing economies from East Asia (China and Thailand), and a fully developed economy (Japan).

Accordingly, figure 5.5-5.9 below demonstrates that income per capita and export diversification especially horizontal export diversifications are all increasing in the four SSA countries. Likewise, income per capita and vertical and horizontal export diversification have been increasing in the emerging economies of China and Thailand. However, the evidence from Japan confirms that the relationship between income per capita and export diversification had been positive until it was fully developed and then it is on decline. Therefore, this verifies the validity of Imbs and Wacziarg's (2003) hypothesis that export diversification mainly increases as income per capita increases. However, the hypothesis suggest that after the economy fully develops and income per capita reaches a certain point, the economy will start to re-concentrate on specialized products and services as has been evident from Japan's experience.

Figure 5.5: Trend of Export Diversification and Income per Capita in Ghana

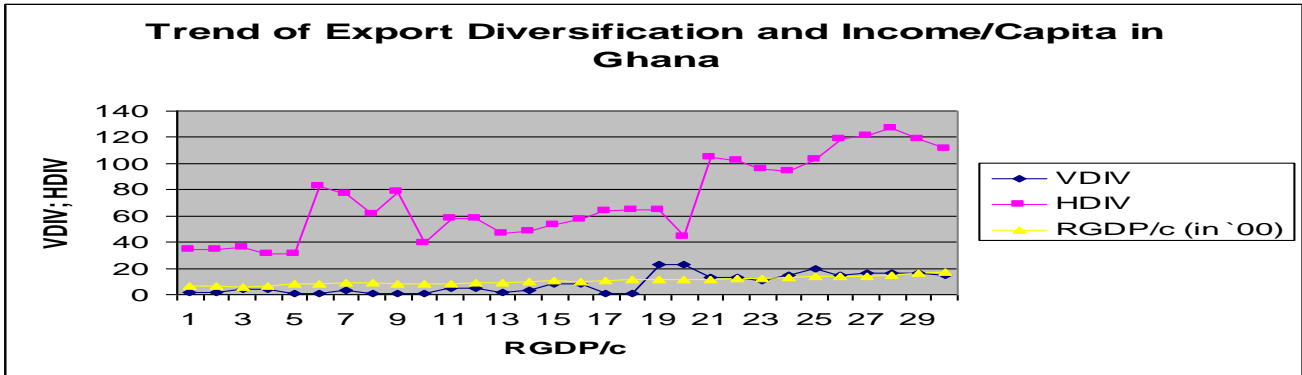


Figure 5.6: Trend of Export Diversification and Income per Capita in Ethiopia

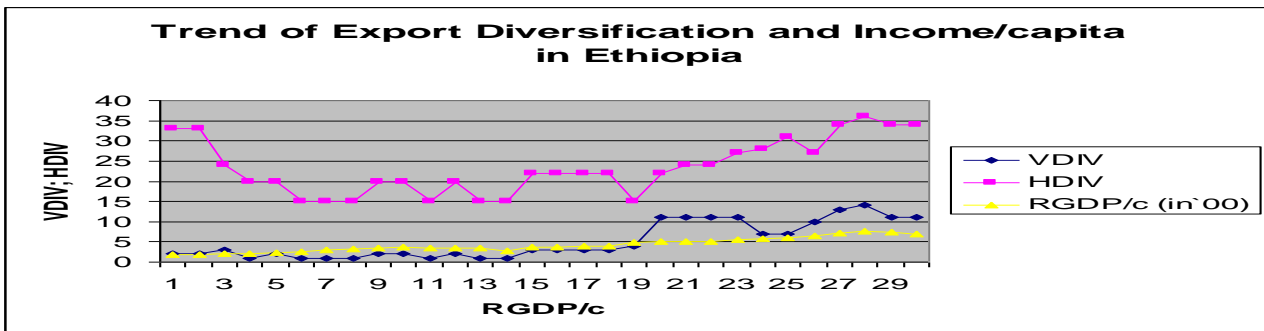


Figure 5.7: Trend of Export Diversification and Income per Capita in China

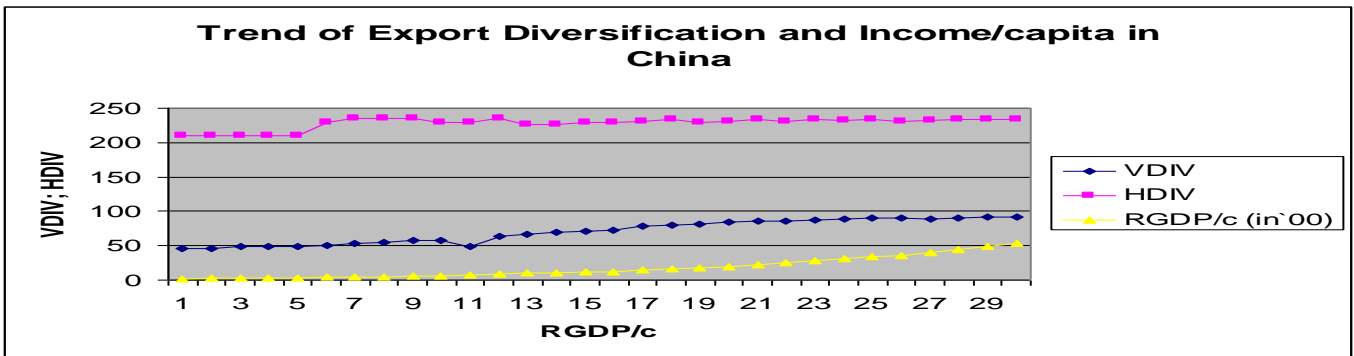


Figure 5.8: Trend of Export Diversification and Income per Capita in Thailand

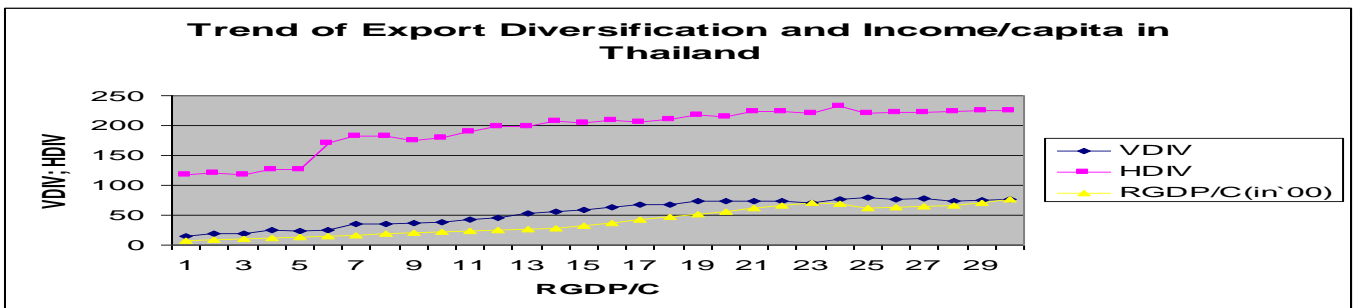
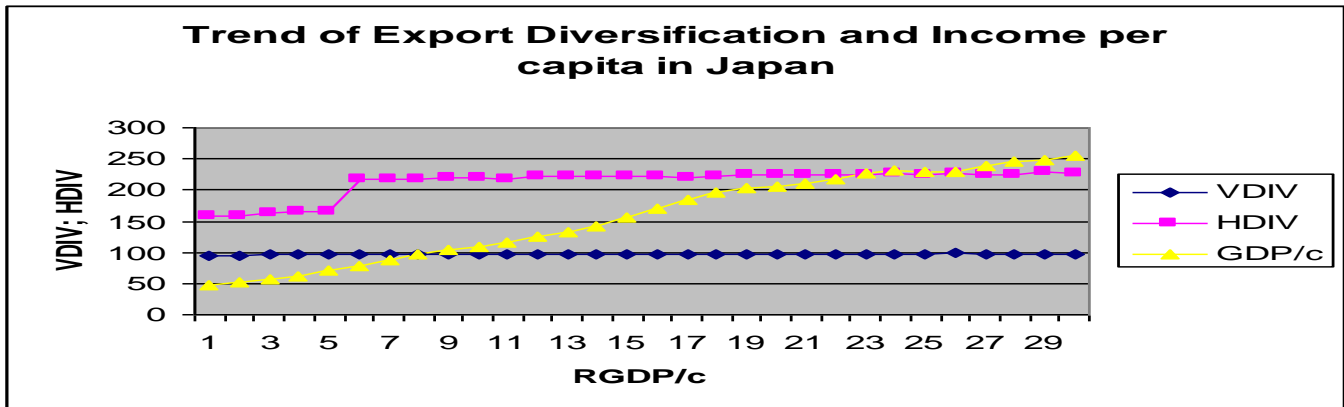


Figure 5.9: Trend of Export Diversification and Income per Capita in Japan



5.4.3. Regression Results and Main Findings

The empirical results from the full sample (table 5.5) confirm that FDI, education, life expectancy, income per capita, population size, infrastructure, openness, arable land ratio, and depreciating exchange rate are the most significant and positive determinants to induce vertical as well as horizontal export diversification.

Likewise, domestic investment has been found to be one of the key determinants in enhancing vertical and horizontal export diversification. For instance, the result from the full-sample analysis in table 5.5 implies that a one per cent increase in domestic investment measured by the ratio of gross fixed capital formation to GDP may boost vertical diversification by about 0.56 percentage points. Likewise, a one per cent increase in the ratio of gross fixed capital formation to GDP may increase horizontal export diversification (in this case the number of export products) by about 5.4 per cent. Similar interpretations can be made for the effects of FDI on vertical and horizontal export diversification as follows.

The coefficient of the FDI to GDP ratio, which has been estimated at 0.0653 in table 5.5, implies that a 1% increase in the ratio of FDI to GDP may raise vertical diversification by about 6.53 percentage points. This confirms that the contribution of FDI in enhancing vertical export diversification is much stronger than the contribution of domestic investment in this regard. However, the effect of FDI to promote horizontal export diversification has been estimated at about 5.1 per cent, which is smaller than the contribution of domestic investment to horizontal export diversification. For that matter, the evidence from table 5.5 shows that the FDI variable positively and significantly affects horizontal export diversification only at the 10 % significance level.

Furthermore, the study reveals that the political instability, oil dummy, and the Africa dummy variables are negative and significant determinants on vertical as well as horizontal export diversification in the full-sample analysis, as shown in table 5.5.

Table 5.5: FGLS regression for Vertical and Horizontal Diversification /whole sample/

Variables	Vertical Diversification	Horizontal Diversification
Domestic Investment	.0056 (.0062)	.0541*** (.0132)
Foreign Direct Investment	.0653*** (.0114)	.0512* (.0288)
Education	.1830*** (.0210)	.1405** (.0691)
Life Expectancy	.0779*** (.0136)	.1923*** (.0419)
Income per Capita	17.129*** (.7423)	51.169*** (2.0465)
Population	3.7947*** (.8918)	47.381*** (1.3612)
Quality of Infrastructure	3.3884*** (.3811)	2.758*** (.9653)
Degree of Openness	.024*** (.0026)	.1554*** (.0097)
Inflation Rate	-0.0039 (.0020)	.0699*** (.0115)
Oil Dummy	-9.472*** (1.1775)	-18.0729*** (2.0405)
Arable Land Ratio	0.1028*** (0.169)	.0843** (.0397)
Aid per capita	.0160*** (.0050)	-.0296 (.0153)
Exchange Rate	0.9223*** (.1245)	2.7667*** (.2605)
Political Instability	-1.9465 (1.3912)	-21.484*** (1.3766)
Africa Dummy	-10.0032*** (2.1707)	-41.7382*** (3.9299)
Constant	-54.007*** (5.1672)	-236.0684*** (11.6148)
No. of Observation	1230	1230
No. of Groups	41	41
Time periods	30	30
Wald Chi2 (14)	1621.62	10269.66

***P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.**

The robustness of the above results as well as the implications of each finding was investigated along with the findings from the sub-samples analysis (table 5.6). Accordingly, the evidence from the sub-samples analysis revealed that domestic investment plays an important role to induce vertical as well as horizontal export diversification in the case of East Asia, while it plays a significant role only to promote

horizontal diversification in the case of SSA. The main explanation is that domestic capital formation which is mainly driven by domestic savings is still at lower stage in many SSA countries and hence its contribution to enhancing vertical diversification and the export of high value-added manufactured goods is insignificant. On the contrary, the evidence confirms that East Asian countries have been successful in domestic capital formation mainly through domestic savings and this in turn significantly contributes to promoting vertical as well as horizontal export diversification.

By the same token, in table 5.6, FDI positively and significantly affects vertical and horizontal export diversification in East Asia. Nevertheless, the empirical results in table 5.6 show that FDI only induces vertical export diversification and not horizontal export diversification in the case of SSA. This perhaps justifies one of the research hypotheses that FDI in SSA is still under the threshold level and its contribution to export diversification is not as strong as in East Asia. An additional explanation as to why the outcomes of FDI are different in the two regions may be the fact that the educational level, development of local financial markets, and other local conditions are not adequate to attract FDI and enhance vertical export diversification in SSA. Comparative statistics on FDI, educational level, and other variables are presented in table 5.3. Thus, the implication is that SSA countries have to make a stronger effort not only in creating an atmosphere conducive to domestic capital accumulation, but also in attracting foreign capital as an alternative source of capital formation, and thereby vertical as well as horizontal export diversification.

Again, as shown in table 5.6, the education and health components of human capital formation were highly significant determinants for promoting vertical and horizontal export diversification in East Asia, mostly at the 1% significance level, implying again that countries in this region have invested significantly in education and health care systems. On the other hand, the evidence from the SSA sub-sample analysis in table 5.6 confirms that the education factor was very important in enhancing both vertical and horizontal diversification, but the health variable is a significant factor only for promoting vertical diversification in SSA. Again, this implies that SSA has to do more in investment on education as well as health so as to achieve a radical change in its economy, specifically to achieve a significant change in vertical and horizontal export diversification as it has been witnessed in East Asia.

Although the standard results of most of the main determinants hypothesized at the outset are fairly robust for both Sub-Saharan Africa and East Asia, the magnitudes of the coefficients vary across the two regions. The effects of human capital, domestic capital, and FDI both on vertical as well as horizontal export diversification are highest in East Asia and less in the SSA sub-sample (table 5.6). For instance, the effects of domestic investment on vertical export diversification in SSA have a coefficient of 0.0056 and 0.0882 in SSA and East Asia respectively. This implies that a 1% increase in the ratio of GFCF to GDP in SSA may raise the probability of raising the share of manufactured exports to total exports by 0.6% and 8.8% in SSA and East Asia respectively. Likewise, the estimated elasticity of education and health components of human capital for vertical diversification in East Asia were found to

be 0.646 and 0.2751 respectively, compared to only 0.0582 and 0.0581 respectively for the SSA sub-samples.

Table 5.6: FGLS Regression for Vertical and Horizontal Diversification /by sub-samples/

Variables	Vertical Diversification		Horizontal Diversification	
	SSA	East Asia	SSA	East Asia
Ratio of GFCF to GDP	.0056 (.0047)	.0882* (.0498)	.0236*** (.0059)	.2146** (.1103)
Ratio of FDI to GDP	.0593*** (.0093)	.1431** (.0646)	.1411 (.1074)	.1201*** (.0098)
Education	.0582*** (.0208)	.646*** (.0768)	.2715*** (.0372)	.464*** (.1499)
Life Expectancy	.0581*** (.012)	.2751** (.1376)	.1604 (.2899)	.2001*** (.023)
Income per Capita	13.838*** (.6698)	13.352*** (2.5383)	53.1515*** (.9725)	39.833*** (8.829)
Population	2.8721*** (.5868)	8.1605*** (2.8984)	55.7658*** (1.0122)	15.123*** (4.8256)
Quality of Infrastructure	2.5586*** (.2999)	2.5873*** (1.3180)	7.9446*** (.5389)	4.2215** (2.5154)
Degree of Openness	.0086*** (.0025)	.0508*** (.0139)	.1823*** (.0039)	.0768*** (.0227)
Inflation Rate	-.0041* (.0022)	.0041 (.0143)	.1143*** (.0052)	-.0622** (.0304)
Oil Dummy	-6.6847*** (.5004)	-44.8368*** (5.6653)	-15.3397*** (.8530)	-24.838*** (9.2097)
Arable Land ratio	.1539*** (.0177)	.2019** (.0879)	.1163*** (.0182)	.7314*** (.2396)
Aid per capita	.0322*** (.0038)	1.637*** (.5293)	-.0357*** (.0083)	.7305 (1.0766)
Exchange Rate	.2471*** (.0502)	11.6265*** (1.4578)	2.5855*** (.1548)	-3.6277* (1.9314)
Political Instability	-4.8529*** (.7379)	-.5743 (3.5833)	-15.711*** (1.2452)	-27.4911*** (6.5411)
Constant	-45.5182*** (3.5547)	-88.449*** (16.4292)	-326.1033*** (5.498)	-57.77* (35.773)
No. of Observation	960	270	960	270
No. of Groups	32	9	32	9
Time periods	30	30	30	30
Wald Chi2 (13)	3065.74	3254.07	12367.85	201.03

*P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.

By the same token, the elasticity of education and health on horizontal diversification in East Asia were found to be 0.464 and 0.2001, respectively, while the corresponding figures for SSA were only 0.2715 and 0.1604, respectively. The same is true for the elasticities of FDI and domestic capital with regard to

their effects on vertical as well as horizontal export diversification in the two regions as shown in table 5.6.

The descriptive statistics obtained earlier in table 5.3 may provide some explanation why the effects of those key explanatory variables such as human capital, domestic capital, and FDI are different between East Asia and SSA. It is perhaps because those East Asian countries have devoted significant amount of investment to education, health, and infrastructure and these in turn create a more conducive atmosphere for FDI inflow into those countries. Likewise, the East Asian experience shows that domestic physical capital, investment in human capital and FDI are complements, not substitutes for each other, and that they all contribute t positively and significantly to both vertical as well as horizontal export diversification.

Income per capita which is a proxy for level of development has been found to be statistically significant at the 1% level for SSA as well as East Asia. This is again consistent both in the full sample as well as in the sub-samples analyses that verified the research hypotheses proposed earlier, that income per capita and export diversification have a mainly positive relationship in developing countries. In fact, the elasticity of this variable is higher in the case of SSA than in East Asia, perhaps in line with the arguments by Imbs and Wacziarg (2003) that diversification initially increases as per capita incomes increase and then decreases. In other words, though most of the East Asian countries in the sample except Japan are still classified as developing countries, most of them have achieved high incomes per capita and hence it is expected that the rate of increase in export diversification will become less and less.

As expected, degree of openness has been found to be an important and statistically significant factor for export diversification both in the full sample and sub-samples analyses, implying that step-by-step liberalization is one of the pre-requisites in order to enhance vertical as well as horizontal export diversification. In line with this, infrastructure is also positively associated with vertical and horizontal diversification and the result is also consistent both in the full sample analysis as well as the sub-samples analyses. Thus, the results support the widely held view that the quality of infrastructure and openness to foreign markets are critical to diversification. Furthermore, population size has been found to be a significant and positive determinant for both vertical and horizontal diversification in the full sample as well as in the sub-sample analyses, implying that domestic demand is one of the driving factors for a country to diversify both vertically and horizontally. This is also in line with the proposition of endogenous growth theory that countries can benefit from economies of scale with a larger population and a larger market size. In other words, countries can be expected to grow faster because of economies of scale.

Inflation has a mixed effect on vertical and horizontal diversification both in the full sample as well as the sub-samples. For instance, inflation is negatively associated with vertical diversification, but positively associated with horizontal diversification in the analysis of the full sample (table 5.5). However, the sub-sample analysis in table 5.6 confirms that inflation is negatively correlated with SSA's

vertical export diversification and East Asia's horizontal diversification. On the other hand, the evidence shows inflation has a positive significant effect on SSA's horizontal export diversification. Generally, the results are not conclusive and the suggestion is that a moderate level of inflation can be sometimes associated with economic growth. For that matter, a low single-digit level of inflation does not seem to have a negative effect on either export diversification in particular or economic growth in general. However, it should be noted that high levels of inflation damage diversification prospects and the tendency under such circumstances is for increased concentration, with little opening-up to new export sectors.

Natural resource endowment which is proxied by the arable land ratio has been found to be an important positive determinant of vertical and horizontal export diversification both for the full sample as well as the sub-samples. The result therefore does not support the generalized view that resource abundance can have a negative effect on diversification as well as growth. Thus, SSA has a relatively large proportion of arable land compared to East Asia and this would be an advantage to diversify not only horizontally, but also vertically towards value-added agro-industries and related manufacturing sector through utilizing its abundant agricultural raw materials. However, similar to other empirical studies, the oil dummy variable was negatively associated with vertical and horizontal export diversification for the full sample analysis (table 5.5). Interestingly, the analysis from the sub-samples offer evidence that the oil dummy variable is negatively associated with vertical as well as horizontal export diversification in SSA. In East Asia, however, the oil dummy variable has been found to be a positive determinant for horizontal export diversification while it is negatively related to vertical export diversification. This implies that the "Dutch disease" effects of oil wealth are mostly notable in SSA and East Asia in both cases of vertical as well as horizontal diversification.

Likewise, it is not surprising to find political instability to be a negative and statistically significant factor for the full sample as well as the sub-samples analyses, since a more stable and durable political regime is vital to improve the prospects for successful diversification in any country. Interestingly, this variable is significant at the 1 % level and negatively affects vertical and horizontal diversification for the SSA sub-sample, while it negatively affects only horizontal diversification in East Asia (table 5.6). In other words, there is no indication that political instability has a significant effect on vertical diversification for the East Asia sub-sample. This is because the countries in East Asia have suffered not so much from political instability for the last three decades, which makes the war dummy variable statistically insignificant factor in explaining vertical export diversification in East Asia. Conversely, Sub-Saharan Africa has suffered tremendously from the consequences of prolonged war for the last three decades and it is not surprising to find a very significant and negative relationship between political instability and vertical and horizontal export diversification for the SSA sub-sample.

Foreign aid has been found to be statistically significant at 1 % level and positively affects vertical diversification, but statistically insignificant for horizontal diversification for the full sample

analysis. A detailed analysis of the sub-samples shows that foreign aid still has a positive and significant effect on vertical export diversification both in SSA and East Asia, but that it affects horizontal diversification negatively in SSA. The empirical results, therefore, indicate that unlike previous assumptions, foreign aid does not always have a negative impact on export diversification due to the “Dutch disease” effect causing an appreciation of the real exchange rate. In fact, the results indicate that if properly managed, foreign aid can play a positive role in promoting vertical export diversification.

A depreciating and stable exchange rate has a significant and positive effect at the 1% significance level on vertical and horizontal export diversification in the full sample as well as for SSA’s sub-sample, which is in line with the theory that a depreciating currency supports increases in exports and eases potentially exportable products into new markets. However, this is not always true in the case of East Asia. The empirical analysis from the East Asian sub-sample indicates that depreciation was positively associated with vertical export diversification, while horizontal diversification was associated with currency appreciation. Similar results have been recorded by Abeysinghe and Tan Lin (1998) who found that Singapore’s economic growth has been associated with continued currency appreciation for the last three decades. Even, if a country’s export inputs are mainly imported as the case of Singapore and Japan, currency appreciation may have more positive effects on economic growth than currency depreciation. All in all, however, the empirical results for the full sample as well as the sub-samples confirm the importance of a depreciating and stable exchange rate as one of the key factors to promote export diversification except East Asia’s horizontal export diversification.

Finally, the “Africa Dummy” which is a proxy to indicate regional differences in export diversification as a result of factors which are not already included in the model has been found to be significant with negative signs. There are at least two interpretations for this result. One interpretation is that there are higher levels of technology spillovers in East Asian countries, mainly because of their geographical proximity to Japan, whereas this kind of economic power is absent in the case of SSA. Although it is still controversial, another explanation could be the cultural factors in East Asian countries, where *Confucian* teachings and philosophies have a deep influence on personal and government morality in promoting values such as justice and sincerity, loyalty, hard work, saving, and environmental protection. These factors are, however, less often found in Africa compared to East Asia and ultimately this affects SSA negatively in relation to diversification.

5.5. Was Export Diversification Performance uniform across Sub-Saharan Africa?

Sub-Saharan Africa comprises 43 nations and each nation is distinct in relation to development, social structure, political organization and geographical location. Hence, an attempt has been made to disaggregate sub-Saharan Africa into low income sub-Saharan Africa and middle income sub-Saharan Africa based on the World Bank’s classification in 2004. Accordingly, descriptive statistics and an

empirical analysis using feasible general least squares (FGLS) techniques have been made and these are discussed as follows.

5.5.1. Descriptive Statistics

The descriptive statistics displayed in table 5.7 show that there is indeed a significant gap between low income SSA and middle income SSA countries in terms of their export diversification performances, domestic capital, FDI inflow, human capital and other indicators of determinants of income per capita growth. In fact, the average vertical diversification index recorded for low income SSA countries is about 12.9%, while it is about 22.3% for middle income SSA countries. Looking back at the performance of East Asia in table 5.3, the average vertical export diversification was about 70.1 %. This huge gap is seen not only between low income SSA countries and East Asia; but also between middle income SSA countries and East Asia. In other words, the descriptive statistics on vertical diversification show that the share of manufactured exports to total exports in East Asia has reached to a level of 70.1%, compared with only 12.9%, and 22.3% for low income SSA and middle income SSA respectively.

The huge gap between low income SSA on one hand and middle income SSA and East Asia on the other hand is not limited only to the area of vertical export diversification, but is also evident in the case of horizontal export diversification. Accordingly, the average number of major export goods and services recorded for low income SSA was only 56, compared with 97 for middle income SSA, and 202 for East Asian countries. This clearly demonstrates how SSA in general and low income SSA in particular is lagging behind in terms of export diversification, both vertically and horizontally.

The average shares of domestic investment to GDP for low income and middle income SSA countries were about 15.6%, and 25.4%, respectively. On the other hand, the domestic investment to GDP rate for East Asia was estimated to be about 29.8%. Similarly, the ratio of foreign investment to GDP in East Asia was about 3.9%, compared with 1.2%, and 2.4% for low income and middle income SSA countries.

The education components of human capital proxied by *secondary school enrollment ratio* for low income and middle income SSA were about 9.4%, and 28.8%, respectively. On the other hand the secondary school enrollment ratio in East Asia was about 34.5%, which signifies a very huge gap especially with the majority of low income Sub-Saharan Africa countries.

The health dimensions of human capital proxied by *life expectancy* for low-income and middle-income SSA are 48 years and 59 years, respectively. This offers additional support that SSA is indeed heterogeneous and there is a huge gap between low-income SSA and middle-income SSA. Of course, life expectancy at birth even in middle-income SSA is much lower compared to East Asia, which has already achieved an average life expectancy of 70 years.

Though the flow of FDI into SSA is generally low, there are again some differences between low-income SSA and middle-income SSA in their ability to attract FDI. Accordingly, the mean ratio of

FDI to GDP in low income SSA has been found to be only 1.24%, while it was about 2.44% for middle-income SSA. As a whole, however, SSA's performance is disappointing compared to East Asia's achievement which was about 3.9% of GDP. Similarly, income per capita shows a significant variation from low-income SSA to middle-income SSA as displayed in table 5.7. Again, even within SSA, population growth in low-income SSA is higher than in middle-income SSA. Similarly, degree of openness for low-income SSA, middle-income SSA, and East Asia have been estimated at 53.5%, 94.6%, and 114.7%, respectively. Since *degree of openness* refers to the ratio of trade to total GDP, the East Asian figure indicates that the region is more open and integrated into the world economy compared to sub-Saharan Africa.

Table 5.7: Descriptive Statistics of Variables for the low and middle income SSA Countries

Variable	SSA (low income)				SSA (middle income)			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
Vertical Diversification	12.87	12.77	0	68	22.27	24.04	1	81
Horizontal Diversification	56.09	45.10	2	207	96.87	75.12	3	256
Domestic Investment	15.59	6.81	-24	60	25.36	8.89	10	61
FDI	1.24	3.31	-29	46.7	2.44	4.37	-9	32
Education	9.44	7.41	0.1	37.3	28.84	13.86	8.2	57
Life Expectancy	47.78	5.01	36	64	59.31	8.18	46	73
Income per Capita	2.88	0.22	2.26	3.51	3.58	0.36	2.69	4.25
Population (in log)	3.98	0.43	2.74	5.13	3.29	0.86	1.77	4.63
Quality of Infrastructure	0.55	0.46	0	2.27	1.50	0.72	0	2.96
Degree of Openness	53.49	23.41	0.85	143.0	94.61	39.49	32.13	209.34
Inflation Rate	47.46	33.65	11.88	371.9	50.41	18.35	22.29	115.45
Oil Dummy	0.08	0.27	0	1	0.5	0.50	0	1
Arable Land Ratio	44.67	18.71	8	91	36.61	23.82	11	82
Aid Per Capita	12.72	10.73	0	99	4.2	4.91	0	30
Exchange Rate	1.53	2.19	-11.78	4.38	1.66	0.96	-0.17	2.87
Political Instability	0.35	0.48	0	1	0.17	0.37	0	1

Another important variable is infrastructure proxied by the number of telephone lines per thousand people. Hence, the results from table 5.7 demonstrate that the mean number of telephones per thousand people in East Asia was estimated to be about 82, while it was only about 1 and 3 per thousand people for low income and middle income SSA countries, respectively. On the other hand, the evidence shows that inflation was a little bit higher for middle-income SSA countries compared to low-income SSA countries. Low-income SSA was reported to have a higher arable land ratio, about 45% compared to 37% in middle-income SSA. The study also found that the average aid per capita for low-income SSA is about 13 percent of GDP, while it was only 4.2 % for middle-income SSA and 0.5% of GDP for East Asia. This demonstrates that it was FDI, not foreign aid per se, that played a big role in East Asia's

economic development. On the contrary, SSA in general and low income SSA in particular is heavily dependent on foreign aid and whether this foreign aid has positive or negative implications for growth will be revealed in the outcome of the regression analysis that appears on table 5.8 in the next section.

5.5.2. Regression Results and Main Findings

5.5.2.1. Factors Explaining Vertical Export Diversification in SSA by Income-groups

The empirical results in table 5.8 confirm that domestic capital (investment) is only significant for East Asia, not for either low-income SSA or middle-income SSA. This implies that East Asia has succeeded in domestic capital formation mainly through domestic savings. In contrast, domestic savings in SSA countries were below the threshold level, as is domestic capital formation. The study also offers strong evidence that FDI is a key factor in promoting vertical export diversification, not only for East Asia but also for low-income as well as middle-income SSA countries. This may indicate that FDI is in fact a complement to domestic capital in the process of development as was already observed in the economic development of East Asia. This suggests African governments and policy makers should create a conducive atmosphere to attract FDI to serve as an additional engine of diversification and growth in line with motivating domestic investment.

In line with the theory and previous work discussed in chapter two of this thesis, the two components of human capital, i.e. education and health, have been found to be the key determinants for the success of East Asian countries and to some extent of middle income SSA countries in terms of vertical diversification, mostly toward to value-added manufacturing products. However, no evidence has been found that either education or health variables have played a significant role for low income SSA countries to diversify their exports vertically. This is because human capital (healthy and skilled labor) in low income SSA countries is below the threshold level and can not support vertical diversification. Likewise, the level of development proxied by income per capita has been found to be statistically significant at the 1% level for East Asia and middle-income SSA, but not for low-income SSA. This again supports the hypothesis that was established at the outset, which as income per capita grows in developing countries, diversification will also increase. This is also in line with Imbs and Wagziarg's (2003) findings. The population variable which may capture both domestic market size and size of the country's labor force has been found to be a significant and positive determinant of vertical diversification for East Asia, while it was a negative factor of vertical diversification for low-income SSA and insignificant for middle-income SSA. The implication is that population growth is one of the constraints on diversification and structural transformation in SSA in general and low-income SSA in particular, whereas, the rate of population growth in East Asia is modest and lower than the rate of economic growth.

Table 5.8: FGLS Regression Results for Vertical diversification by Region & Income Group

Variable	Vertical Diversification			
	East Asia	SSA	SSA (low)	SSA (middle)
Domestic Investment	.0882* (.0498)	.0056 (.0047)	.0015 (.0043)	.0556 (.052)
FDI	.1431** (.0646)	.0593*** (.0093)	.0968*** (.0099)	.130*** (.066)
Education	.646*** (.0768)	.0582*** (.0208)	.0139 (.0164)	.2946** (.175)
Life Expectancy	.2751** (.1376)	.0581*** (.012)	.0146 (.0127)	.5792*** (.1282)
Income per capita	13.352*** (2.5383)	13.838*** (.6698)	2.8284 (5.1348)	9.148*** (.5421)
Population	8.1605*** (2.8984)	2.8721*** (.5868)	-4.8926*** (.5156)	4.812 (3.211)
Quality of Infrastructure	2.5873*** (1.3180)	2.5586*** (.2999)	1.3635 (2.1925)	4.5694*** (.2849)
Degree of Openness	.0508*** (.0139)	.0086*** (.0025)	.0176*** (.0022)	-.0006 (.0244)
Inflation Rate	.0041 (.0143)	-.0041* (.0022)	-.0089*** (.0016)	.138*** (.0498)
Oil Dummy	-44.8368*** (5.6653)	-6.6847*** (.5004)	-1.1121*** (.4257)	-41.291*** (12.075)
Arable Land Ratio	.2019** (.0879)	.1539*** (.0177)	-.1159*** (.0075)	.6016*** (.1587)
Aid per capita	1.637*** (.5293)	.0322*** (.0038)	.0122*** (.0037)	.0103 (.0936)
Exchange Rate	11.6265*** (1.4578)	.2471*** (.0502)	.2018*** (.0385)	16.522*** (5.227)
Political Instability	-.5743 (3.5833)	-4.8529*** (.7379)	-.1657 (.4186)	-7.722 (6.784)
Constant	-88.449*** (16.4292)	-45.5182*** (3.5547)	5.9472 (2.6946)	-47.368** (22.442)
No. of Observation	270	960	780	180
No. of Groups	9	32	26	6
Time periods	30	30	30	30

* $P \leq 0.10$; ** $P \leq 0.05$, *** $P \leq 0.01$ refer statistically significance level at 10%, 5% and 1%, respectively.

Interestingly, infrastructure has been found to be a crucial factor speeding up vertical export diversification for East Asia and middle-income SSA, but not for low-income SSA. This should remind policy makers how crucial physical infrastructure is for promoting vertical diversification and by

extension to structural change on the economy. Inflation has a mixed effect on vertical export diversification, East Asia and middle-income SSA were characterized by modest inflation along with increasing vertical diversification, while inflation has a negative impact on vertical diversification for low-income SSA.

Natural resource endowment which has been a subject of debate among many academicians and policy makers for quite some time may have a mixed effect on vertical export diversification depending on the type of proxy variable used. Natural resource endowment in this study has been captured by two variables: the oil dummy and the arable land ratio. Accordingly, the empirical evidence confirms that oil resources have a negative and significant impact on vertical export diversification in all regions. This re-confirms the most popular view that natural resource endowment makes countries more dependent on export of a few natural resources and discourages product and sectoral diversification through the “Dutch disease” effect. However, the arable land ratio which captures another aspect of natural resource endowment has a positive and significant effect on vertical export diversification both in East Asia and middle-income SSA, but not for low-income SSA. Interestingly, aid per capita has been found to be a positive determinant for the vertical diversification attempts of East Asia and low-income SSA, but not for middle-income SSA. The evidence from the analysis also confirms that a depreciating and stable exchange rate was instrumental for vertical export diversification in all regions. It may be perhaps that a depreciating currency will encourage exports and competitiveness and then motivate local and foreign investment and enhance vertical diversification.

Last but not least, political instability was found to be a significant constraint on a country’s development efforts including vertical export diversification. This is also in line with the hypothesis that countries with a high level of political stability can enjoy more and more vertical export diversification because only if a country is politically stable will it achieve an FDI inflow, domestic capital formation, human capital formation, and above all economic development.

5.5.2.2. Factors Explaining Horizontal Export Diversification in SSA by Income-groups

Regression analysis using FGLS was made for factors explaining horizontal export diversification and the results have been shown under table 5.9 below. Accordingly, the results confirm that domestic capital plays a significant role in enhancing horizontal export diversification, especially for East Asia which is statistically significant at the 1% level, and modestly for middle income SSA which is statistically significant at the 5 % level. However, no evidence was found for domestic investment enhancing horizontal export diversification for low-income SSA. This may be associated with the extremely low level of savings and domestic capital formation in many low-income SSA countries.

By the same token, FDI was found to be highly significant at the 1% level for East Asia in diversifying its exports horizontally. However, there is no evidence that FDI contributed to enhancing horizontal diversification either in low-income SSA or middle-income SSA. This in turn reconfirms one

of the research hypotheses that the FDI level in SSA is extremely low, and cannot contribute to starting modern production systems and horizontal diversification into new products.

Human capital, which is captured by both education and life expectancy at birth, has been found to be statistically significant in increasing horizontal diversification both in East Asia and SSA countries. Income per capita and population size were also positive determinants in enhancing horizontal export diversification in all regions. On the other hand, physical infrastructure has become a crucial factor for East Asia and middle-income SSA, but not for low-income SSA as expected from the hypothesis. While degree of openness was positively associated with horizontal export diversification almost for all regions, inflation affects horizontal diversification negatively for East Asia but positively in the case of SSA countries. This again shows the effect of inflation on horizontal export diversification is a mixed one.

Interestingly, the oil dummy as well as the arable land ratio were found to be key determinants that have a negative and positive effect respectively on horizontal export diversification for all regions. This implies that it is not possible to generalize empirically the theory that natural resource endowment always has a “Dutch disease” effect on diversification. It should be explicitly examined which types of natural resources have a negative impact, as has been tested in this study. Likewise, the aid per capita variable has a mainly negative sign, but it is significant only for the SSA sample.

The effect of exchange rate on horizontal export diversification is mixed and it is local currency appreciation which contributes to horizontal export diversification for East Asia and middle-income SSA, while a depreciating currency is vital for horizontal export diversification in low-income SSA. The main justification perhaps is that countries, especially those in East Asia import most of their export inputs from abroad and in this case currency appreciation may contribute more to vertical export diversification compared to the benefits that might have been derived from local currency depreciation.

Finally, as it has been hypothesized at the beginning, the empirical evidence offers strong support that political instability was one of the negative contributing factors for halting horizontal export diversification in all regions including East Asia, low income SSA, and middle income SSA. This implies that if countries want to achieve a significant level of horizontal export diversification, they must put in place the necessary conditions in creating not only appropriate economic policies but also a political atmosphere conducive to encouraging investment, savings, labor mobility, infrastructural development, human capital, and exports diversification and structural change in the economy.

To sum up, most of the variables under consideration are consistent in the estimation results between the full sample and the separate estimations of the two regions (sub-samples). Accordingly, it has been shown that domestic capital and human capital are indeed key factors to positively induce vertical and horizontal export diversification for East Asia and to some extent to only horizontal export diversification for middle-income SSA. However, no evidence has been found that domestic capital plays a significant role either for vertical or horizontal export diversification for low-income SSA, implying that the level of savings and domestic capital formation are under the threshold level, which

has become one of the major constraints on diversification and structural transformation. Foreign Direct Investment, which is one type of physical capital, has also a positive and significant effect on vertical and horizontal export diversification in East Asia, but only on vertical export diversification for SSA.

Table 5.9: FGLS Regression Results for Horizontal Diversification by Regions & Income

Variable	Horizontal Diversification			
	East Asia	SSA	SSA (low)	SSA (middle)
Domestic Investment	.2146** (.1103)	.0236*** (.0059)	-.0087 (.021)	.2842** (.1317)
FDI	.1201*** (.0098)	.1411 (.1074)	-.0008 (.0389)	.3489 (.2388)
Education	.464*** (.1499)	.2715*** (.0372)	.3345*** (.0752)	.720** (.294)
Life Expectancy	.2001*** (.023)	.1604 (.2899)	.3414*** (.0647)	.509** (.2487)
Income per capita	39.833*** (8.829)	53.1515*** (9.725)	71.4762*** (3.048)	9.560*** (14.446)
Population	15.123*** (4.8256)	55.7658*** (1.0122)	38.8069*** (2.1536)	115.795*** (8.937)
Quality of Infrastructure	4.2215** (2.5154)	7.9446*** (.5389)	2.975 (6.593)	8.3422*** (1.2353)
Degree of Openness	.0768*** (.0227)	.1823*** (.0039)	.2003*** (.0144)	.1177 (.0863)
Inflation Rate	-.0622** (.0304)	.1143*** (.0052)	.1108*** (.0133)	.234** (.111)
Oil Dummy	-24.838*** (9.2097)	-15.3397*** (8.530)	-31.295*** (3.5286)	-113.377*** (23.753)
Arable Land Ratio	.7314*** (.2396)	.1163*** (.0182)	.0723* (.0405)	1.556*** (.375)
Aid per capita	.7305 (1.0766)	-.0357*** (.0083)	-.0186 (.0171)	-.285 (.351)
Exchange Rate	-3.6277* (1.9314)	2.5855*** (.1548)	.9953*** (.2534)	-2.1635 (5.945)
Political Instability	-27.4911*** (6.5411)	-15.711*** (1.2452)	-26.2*** (1.745)	161.176*** (15.336)
Constant	-57.77* (35.773)	-326.1033*** (5.498)	-296.404*** (1.745)	-593.821*** (58.089)
No. of Observation	270	960	780	180
No. of Groups	9	32	26	6
Time periods	30	30	30	30

*P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.

The main explanation is that educational level, development of local financial markets, and other local conditions in SSA are not adequate to allow FDI to play a positive role in vertical export diversification. Human capital which was captured by education and health variables is one of the key determinants for East Asia, but works only modestly for middle-income SSA, and only for horizontal diversification in low-income SSA.

The effects of the remaining variables have already been discussed earlier and most of the evidence reveals that East Asia has successfully diversified its economy both vertically and horizontally. It has ultimately achieved a dynamic structural transformation from the exporter of a few commodities to the exporter of high value-added manufacturing products and services over the last three or four decades. Sub-Saharan Africa on the other hand has not succeeded in transforming its economy dominated by a few commodities into a dynamic one, and hence both vertical and horizontal export diversification are still at a low stage because of the factors discussed in the preceding sections. Within SSA itself, the evidence confirms that at least there is some success by middle-income SSA to diversify its exports, mainly on the horizontal dimension.

The policy implications of this study are relatively straightforward. The lesson from East Asia for SSA is that investment in human capital and physical infrastructure through foreign investment as well as domestic capital formation are key factors, as are a stable macro-economic and political environment, a stable and flexible exchange rate, and a fair and an open trading framework. These are all crucial to accelerating vertical and horizontal export diversification and ultimately promoting structural change in the economy. In line with this, this study recommends that SSA countries should first follow a dual strategy of vertical and horizontal export diversification, mainly by supporting backward and forward linkages into higher value-added resource-based industries and gradually shifting production and exports from customary products to more dynamic ones by developing a competitive advantage in the world market.

Although export diversification cannot be expected to become a panacea for SSA's deep-rooted economic problems, which are a result of three or four decades of stagnation, it is however one of the key measures and a prerequisite to achieving sustained and rapid economic development.

Chapter Six

The Impacts of Vertical and Horizontal Export Diversification on Economic Growth: Empirical Evidence from East Asia and Sub-Saharan Africa

In the previous chapter, the first-step empirical analysis has already dealt with the identification of the key factors explaining vertical and horizontal export diversification in East Asia and Sub-Saharan Africa. In this chapter, the second-step hierarchical empirical analysis will investigate the impact of vertical and horizontal export diversification on growth in income per capita. Though the relevant theoretical framework for the link between export diversification and economic growth was discussed in depth in chapter two, it is important just to provide a summary of the following five major important ways in which diversification influences growth or income:

1. Diversification may be considered as an input (a production factor) that increases the productivity of the other factors of production (Romer, 1990);
2. Diversification may increase income by expanding the possibilities to spread investment risks over a wider portfolio of economic sectors (Acemoglu and Zilibotti 1997). This argument suggests that diversification is pivotal to sustaining high economic growth rates and to reducing growth volatility;
3. Diversification is expected to make a positive contribution to *Total Factor Productivity* (TFP) growth, and by extension, to economic growth;
4. Diversification may also have a positive effect on growth because of the existence of economies of scope in production. Economies of scope exist when the same inputs generate greater profits per unit when spread across multiple outputs than when dedicated to any one output. The concept is thus distinct from that of economies of scale in which per unit profits increase as the amount of inputs to production grows;
5. Through forward and backward linkages, production of a diversified export structure is also likely to provide a stimulus for the creation of new industries and expansion of existing industries elsewhere in the economy (Hirschman, 1958).

With this, we come to the task of identifying the independent variables (factors) that may influence economic growth based on theoretical analysis and previous empirical studies. Here, it should be noted that apart from vertical and horizontal export diversification, a number of variables that we discussed in chapter five such as domestic capital, FDI, human capital, political stability, etc. are also relevant determinants of economic growth in a different context. There is a strong assumption that factors that are good for growth are also good to stimulate export diversification, and vice versa (Glyfson, 2002).

6.1. Independent Variables of Economic Growth

6.1.1. Vertical Export Diversification

According to structural models of economic development, countries should diversify vertically from primary exports into manufactured exports in order to achieve sustainable growth (Chenery, 1979; Syrquin, 1989). By the same token, the Prebisch-Singer thesis advocates that vertical export diversification can reduce declining terms of trade for commodity-dependent countries. The neoclassical arguments also suggest that vertical diversification is not only important for the high value-added manufacturing sector, but it is also vital to produce spillover effects in agriculture, so encouraging convergent tendencies in sectoral productivity levels.

Apart from these, vertical export diversification, through increasing the value added of export commodities as well as by additional processing and marketing would have the advantage of creating a more stable income inflow by providing a broader base of exports, and enhance growth by substituting commodities with positive price trends for those with declining price trends. This is vital for developing countries' exports, particularly those of Sub-Saharan Africa where exports are concentrated in a few products, often commodities, with very high volatile demand and high income instability, which in turn provokes high growth volatility.

Vertical export diversification is also associated with the dynamic benefits generated by diversifying comparative advantages in terms of the spillovers in the economy as a result of having a more diversified production structure which is likely to exhibit increasing returns to scale (Hausmann and Klinger, 2006).

Similarly, as Donald (1984) explains, firms may have followed a strategy of vertical diversification into related businesses particularly through value-added ventures, for several reasons related to characteristics in their base industries. Firms in industries with significant R & D in product or process technology may have developed intangible assets that could be transferred to new, but related, industries. Likewise, high advertising expenditures may have allowed a firm to develop a brand name as well as skills in marketing and distribution that could be transferred to new products in a related industry at a low cost.

Vertical export diversification also enhances cross-sector linkages such as the expansion of modern agriculture through increased intermediate demand. Moreover, vertical export diversification stimulates competitive advantages and strong functional linkages among various clusters of industries. For instance, Scott (1993:3) notes the technological successes of the Japanese have been attributed to the "fusion" of ideas generated in different but complementary industries. The technological fusion is made possible by *keiretsu*, or families of firms with an ownership interest in one another. Indeed, Porter (1990) has attributed the sustainable competitive advantages of entire countries to their prowess in clusters of related industries.

6.1.2. Horizontal Export Diversification

Feenstra et al (1999) evaluated the link between increased product variety and productivity using sectoral data for South Korea and Taiwan and found that the changes in relative export variety across the two countries have a positive and significant effect on productivity growth. A related theoretical analysis by Williamson (1975) explains that the relationship between export diversification and economic growth has emphasized two possible channels through which diversification may affect profitability and thereby economic growth. First, diversification may be expected to increase profitability by facilitating increased efficiency through greater exploitation of the firms' assets and benefits that accrue from economies of scope. A further possibility is that diversification strengthens firms' recognition of their interdependence by increasing the numbers of sectors/products (i.e. horizontal export diversification) in which firms meet and compete.

Imbs and Wacziarg (2003) also found that a more diverse production structure tend to be associated with a higher level of per capita income, at least until relatively late in the development process when specialization effects begin to dominate. Furthermore, Feder (1983) explains that as export products expand, both the resources allocation effect and externality effect lead to an overall productivity increase. By the same token, Herzer and Nowak-Lehmann (2006) confirms that export of diversified products influences economic growth via externalities of learning-by-exporting and learning-by-doing.

6.1.3. Domestic Investment

According to Solow model's prediction, the investment rate is a key determinant of whether a country is rich or poor. Investment, in turn, depended on high saving rates. The neoclassical growth models of Solow-Swan and Ramsey also predict that an exogenously higher value of I/Y raises the steady-state level of output per effective worker and the growth rate. Similarly, Fagerberg (1994) confirms the Solow model prediction that capital accumulation is a major factor contributing to productivity growth – measured as an increase in output per worker. Hence, capital deepening will continue until the economy reaches a steady state—a point at which net investments grow at the same rate as the labor force and the capital-labor ratio remains constant. The further the economy is below its steady state, the faster it should grow (see e.g. Jones 1998).

Similarly, the “new growth theory” or “endogenous growth theory,” retains all the essential features of the neo-classical approach to growth except that the assumption of diminishing returns to capital is relaxed. In other words, according to the new growth theory, the marginal product of capital does not decline as more investment takes place and hence investment ratio will also be a determinant of long-run growth (Thirwall, 2003).

In fact, the experience of successful East Asian economies reveals that sustainable economic growth requires strong domestic capital formation through systematically encouraging domestic

entrepreneurship. For example, in Korea, government had to foster the creation of firms, encouraging their growth and laying the foundation for the modern-day *chaebol* or conglomerates. Using the Japanese model of *zaibatsu* and the general trading company, the Korean government was able to compensate for the apparent lack of entrepreneurship.

6.1.4. FDI Inflow

The role of FDI in developing economies is at the center of many theories of development. Dependency theory sees multinational corporations (MNCs) as exploiting weak Third World nations (Bornschieer and Chase-Dunn, 1985); the neoclassical approach assumes that MNC's activities promote growth by introducing valuable capital and technology into poor economies; and statist (advocates of the developmental state) argue that government regulatory initiatives are the prime determinant of whether MNCs will operate in a positive or negative manner for a local economy (Chan and Clark, 1995a).

Nevertheless, it has become evident that many developing countries see attracting foreign direct investment (FDI) as an important element in their strategies for economic development. Exports and FDI are sources of income to the host country and may play crucial roles in the take-off of an economy. Moreover, FDI is one of the main avenues for the movement of technology and modern business methods across national borders. FDI can increase competition in the host economy, making domestic companies more efficient and stimulating sectoral and product diversification. Among the possible welfare gains in developing countries as a result of FDI inflow, the following two factors at least are important. One is the technological spillover effects that FDI may have on local companies. The other important factor is the creation of new employment in developing countries. Usually before FDI inflow, most workers are employed in traditional sectors, such as agriculture, whose returns are usually very low.

Therefore, the rationale for increased efforts to attract more FDI stems from the belief that FDI has several positive effects which include productivity gains, technology transfers, the introduction of new processes, managerial skills, and know-how in the domestic market, employee training, international production networks, and access to markets. In particular, we argue that the lack of human capital (trained labor) and absence of adequate infrastructure can limit the economy's ability to take advantage of potential FDI spillovers. This is especially true in the case of sub-Saharan Africa where the level of human capital and infrastructure are below the minimum threshold level to play a positive role in attracting FDI and bring about structural change and sustainable economic growth.

6.1.5. Human Capital

Human capital, in its broader sense, has become an important driving force behind economic development and income distribution. It is also widely accepted that endogenous growth theory has considered human capital as the major determinant of economic growth. In fact, it is the role of human capital that prevents the marginal product of capital from falling and thereby countries get richer (Lucas,

1988). However, right up until the second half of the 1990s, the role of human capital was, in the main, linked to education, although a few authors had already recognized the importance of other factors such as health. Mankiw, Romer, and Weil (1992) first considered not only education but also health in a broader analysis of human capital. Thus, human capital in this study refers both education and health and the link between education and economic growth per capita as well as the link between health and economic growth per capita will be discussed in detail as follows.

6.1.5. 1. Education.

“If you plan for a year, plant a seed. If for ten years, plant a tree. If for a hundred years, teach the people. When you sow a seed once, you will reap a single harvest. When you teach the people, you will reap a hundred harvests” (K’uan-tzu, 551-470BC).

Human capital, particularly that attained through education, has been emphasized as a critical determinant of economic progress (Barro and Lee, 2001:541); and ‘growth rates’ are affected by ideas and invention, which in turn are related to the stock of human capital either through research and development activities or through adoption behavior. However, it should be recognized that developing domestic human resources through education and training is a long-term process to increase the innovative capacity of an economy. It is worthwhile to mention the remark of Lee Kwan Yew, founding father of Singapore (1959-1991), which is quite relevant here as follows:

“I thought then that wealth depended mainly on the possession of territory and natural resources, whether fertile land, or valuable minerals, or oil and gas. It was only after I had been in office for some years that I recognized that the decisive factors were the people, their natural abilities, education and training.”

According to Habiyaemye and Ziesemer (2006), when educational attainment is used as a proxy for human capital, there are three main views that attempt to explain how education affects the production process and contributes to economic performance. The *first* view considers education as having the effect of increasing the labor “efficiency units,” making an educated worker represent more labor units than an uneducated one. The *second* view is that educated workers are able to perform complex tasks and are therefore not substitutable by unskilled workers. The *third* view associates education and skills of workers with learning and creation of new technologies that generate more output, keeping the level of inputs constant. Applied to the case of developing countries, this view suggests that educated workers help the country to absorb, implement and diffuse foreign technology, and thereby generate more growth.

Similarly, the World Bank (1993) found that a 10% increase in the school enrollment ratio in primary and secondary education would lead to a 0.3 % increase in the growth rate of per capita GDP. In line with this, Dollar et al (1988) point out that trade in general and export diversification in particular can serve as conduits for flows of knowledge which act to raise the productiveness of physical capital and labor and ultimately have the potential to increase the growth rate of per capita income. Abramovitz (1986) shows the realization of technological improvements in developing countries is closely related to their level of human capital, such that the type of technology a country can adopt and efficiently utilize very much depends on the supply of technical and managerial skills available in that country. This implies that development policy targeting technology acquisition and the reduction of the technology gap must be aimed at facilitating the interaction between technology flows and human skills. That was why some developing countries in East Asia and Latin America have been successful in narrowing the technology gap in a few decades, and their educational attainment is credited for much of this achievement (Lall, 1992). According to Nelson and Phelps (1966), a large stock of human capital makes it easier for a country to absorb the new products or ideas that have been discovered elsewhere. Therefore, a follower country with more human capital tends to grow faster because it catches up more rapidly with the technological leader. Furthermore, Levine and Renelt (1992) show that the level of human capital (as measured by secondary school enrollment), the investment-GDP ratio, and the initial levels of per capita income are robust determinants of economic growth.

6.1.5. 2. Health

Health, as a form of human capital, should be envisaged as a property that may be improved through investment in resources. It is within this framework that the mechanisms affecting the way in which health investment dictates the future incomes of individuals should be studied. Fogel (1994), and Barro and Sala-i-Martin (2004) were among the first to examine the relationship between economic growth and health and confirm that good health is a crucial component of overall well-being. This view is also shared by Savedoff and Schultz (2000) who explains the idea that healthier individuals are more productive, supported by a microeconomic view point.

Similarly, Lopez-Casasnovas, Rivera, and Currais (2005) argue that good health raises levels of human capital, and this has a positive effect on individual productivity and on economic growth rates. Better health increases workforce productivity by reducing incapacity, debility, and the number of days lost to sick leave, and increases the opportunities an individual has of obtaining better paid work. Further, good health helps to forge improved levels of education by increasing levels of schooling and scholastic performance. Health also affects output, income productivity, and ultimately economic growth.

Citizens who expect to live long after retirement tend to have a strong incentive, to save and invest and this is known as life-cycle savings. If life expectancy happens to be short, people don't expect to live in many years in retirement and, as a result, their incentives to save are greatly reduced. Thus,

through its adverse effects on life expectancy, poor health will tend to reduce national savings and investment, and thereby economic growth (Sala-i-Martin, 2005). Furthermore, Schultz and Tansel (1997), and Thomas and Strauss (1997), confirm the idea that health is a form of human capital that influences individual wage levels and thus their capacity to generate a sustained income that increases over time. This implies positive consequences in terms of spending power and the standard of living for all of those in the household.

The links between health and growth can also be indirect, emerging, for instance, through demographic or geographic variables. For example, health improvements influence economic growth through their impact on demography: improvements in health lead to a decline in infant and child mortality which induces changes in the composition of the population and eventually causes an increase in the proportion of working-age adults. In Asia, such demographic changes may have contributed significantly to the “economic miracle” of the 1965-1990 periods (Bloom and Williamson, 1998). As Sen (1998) points out, life expectancy has an intrinsic capability on which personal welfare depends. Generally, for LDCs, investing in health often provides a means of escaping from the poverty trap. Thus, the health variable is often captured by a “life expectancy” indicator.

6.1.6. Initial GDP per Capita

The Solow-Swan and Ramsey hypothesis of “absolute convergence” predicts that poorer countries typically grow faster in income per capita in order to catch up to the richer countries. The Solow model, however, emphasizes that economies may converge depending on why they differed in the first place. If two economies with the same *steady state*¹⁰ occur by historical coincidence to start off with different capital stocks, then we should expect them to converge. The economies with the smaller capital stock will naturally grow more quickly, as shown in the cases of Japan and Germany after World War II. On the other hand, if two economies have different rates of saving, then we should not expect convergence. Instead each economy will approach its own steady state.

Likewise, Barro (1996) has made an intensive empirical analysis for a panel of around 100 countries from 1960 to 1990 and the findings strongly support the general notion of conditional convergence. *The main implication from this study was, therefore, poorer countries can achieve faster growth per capita once one holds constant measures of government policy, initial levels of human capital, and so on.*

¹⁰ A steady state is a condition of the economy in which output per worker (productivity of labor) and capital per worker (capital intensity) do not change over time. This is due to the rate of new capital production from invested savings exactly equaling the rate of existing capital depreciation.

The economic success of the East Asian economies in the second half of the twentieth century supports convergence theory, which states that the gap between rich and poor countries should converge over time. However, the present human capital approach suggests that convergence theory only works for nations whose populations have well-developed human capital expressed in high standards of educational attainment and high intelligence (Kidd and Richter, 2005).

6.1.7. Population Growth

The issue of population and economic growth is as old as economics itself. Malthus (1798) claimed that there is a tendency for the population growth rate to surpass the production growth rate because population increases at a geometrical rate while production increases at an arithmetic rate. Thus, unfettered population growth in a country could plunge it into acute poverty. However, this pessimistic view has proven unfounded for developed economies in that they managed to achieve high levels of economic growth and thus, both population and the real gross domestic product (GDP) per capita were able to increase (Meier 1995: 276).

The debate between positive and negative sides of population growth is ongoing. On one hand, it is believed that population growth enlarges the labor force and, therefore, increases economic growth. A large population also provides a large domestic market for the economy. Moreover, population growth encourages competition, which induces technological advancements and innovation. On the other hand, a large population growth is not only associated with food problem but also imposes constraints on the development of savings, foreign exchange and human resources (Meier 1995).

Generally, there is no consensus as to whether population growth is beneficial or detrimental to economic growth in developing economies. The issue of population and economic growth is also closely related to the issue of the minimum wage. Population growth enlarges labor force and, therefore, will push wages down. The standard economic labor demand model predicts that low wages will raise the demand for labor. As a result, the welfare of the economy is likely to increase. Moreover, low wages would encourage industries that are labor intensive. Low wages are said to be an important factor that has contributed to the industrialization of Asian newly industrialized economies (NIEs), namely Korea, Hong Kong, Taiwan, and Singapore. Moreover, it is also argued to be an important factor that contributes to economic growth in China (Tsen and Furuoka, 2005).

Becker et al (1999: 149) demonstrated in a theoretical model that large population growth could have both negative and positive impacts on productivity. A large population may reduce productivity because of diminishing returns to more intensive use of land and other natural resources. Moreover, population growth is much more than a food problem. A high rate of population growth not only has an adverse impact on improvement in food supplies, but also intensifies the constraints on development of savings, foreign exchange, and human resources. Rapid population growth tends to depress savings per

capita and retards growth of physical capital per worker. Conversely, a large population could promote a large market which increases returns to human capital and knowledge. Thus, the net relationship between greater population and economic growth depends on whether the return to human capital and expansion of knowledge are greater than diminishing returns to natural resources. The Solow model predicts that economies with higher rates of population growth will have lower levels of capital per worker and therefore lower incomes. The population variable is mainly used to see the scale effects. On the other hand, endogenous growth theory hypothesizes that larger economies will perform better. Thus, the effect of population growth on economic growth is ambiguous (Barro, 1996).

6.1.8. Exchange Rate

In theory, the depreciation of the local currency exchange rate against the US\$ should represent a window of opportunity to boost exports. But, sometimes agricultural exports do not respond as expected, mainly due to a decline in terms of trade for primary commodities, lack of trade finance caused by the inefficient domestic banking system in many developing countries, inadequate marketing information systems and excessive dependence on imported inputs which may be more expensive in local currency terms. When trade volumes do not respond to exchange-rate changes, the trade balance moves in the “wrong” direction: depreciation makes the country’s trade deficits rise in the short run, gradually returning to surplus again and this phenomenon is called the *J-curve effect* (Ito, 2001). Generally, it has been hypothesized that a depreciating and stable exchange rate has a positive link with economic growth.

Dordunoo (2001) presents case studies from Nigeria, Ghana, Uganda and Tanzania of exchange rate reforms and draws three important conclusions: (a) to stabilize the exchange rate and domestic inflation, a country’s exchange rate reform program must be a part of a broader macroeconomic framework that includes fiscal policy and monetary control; (b) devaluation need not necessarily be inflationary, especially if accompanied by sound monetary policy that restrains the growth of liquidity beyond the absorptive capacity of the economy; and (c) for a successful convergence of the official and parallel exchange rates, governments must consider institutional factors. Finally, the government must be transparent and consistent in its policies so as to assure the private sector of its credibility.

Similarly, Killik (1993) points out that an over-valued exchange rate is likely to have a variety of adverse effects on an economy. It discourages exports by reducing the profitability of producing for world markets; it discourages national production of importable goods because the local currency cost of imports will be kept artificially low; it will also skew the distribution of income away from producers of tradable goods and in favor of services and other non-traded activities. This will frequently show up as a bias in favor of urban dwellers, discriminating against the rural economy where most of the poor usually live. Furthermore, it will lead to a weakening of the balance of payments and may aggravate capital flight. Thus, it has been assumed that a depreciating currency is an appropriate macroeconomic fundamental to stimulate exports and thereby enhancing economic growth.

6.1.9. Openness

Endogenous growth models predict that trade openness could positively influence economic growth, because the flow of goods and investment across borders through international trade could be an effective means of diffusion of knowledge at the international level. Since knowledge generates positive externalities in these models, the result of expanded trade should be to expand the productive capacity of the economy (Edwards, 1992). However, some studies are skeptical about the direct link between openness and economic growth. These include Elbadawi et al (2001) who state that the most important point is not the issue of openness per se, but the type of openness that is most efficient for the transfer of knowledge and technology. For example, it is only particular kinds of imports, mostly services such as foreign direct investment (FDI) and intellectual property-and not regular goods imports that are expected to have significant productivity enhancing effects (Helleiner, 1994).

On the other hand, others argue that economies which trade more tend to grow faster. Openness to trade can enhance productivity by enabling a more efficient allocation of resources, by providing greater opportunities to exploit economies of scale; by exposing the domestic economy to greater competitive pressures, by rewarding innovation and providing access to new technologies; and by increasing incentives for investment. Taken together, these factors mean that openness to trade can play an important role in raising the long-run sustainable rate of productivity growth in the economy (Dobre, 2008). In line with this, Dollar and Kraay (2002) find a strong correlation between growth or productivity and the ratio of trade in GDP.

Thus, the degree of openness of a given country has been assumed to be one of the necessary stimulants to exports and economic growth. For instance, until 1858, Japan was almost entirely isolated from world trade. In that year, the Japanese government ended self-imposed trade restrictions, and begun trading with the rest of the world. Once trade began, Japan specialized in three commodities: silk, silkworm eggs, and tea. Within 12 years after markets were opened, foreign trade had increased by 7,000 percent. Generally, the combination of improved terms of trade as well as the gains from adopting improved technologies from abroad may have accounted for as much as a 65% rise in real national income (Huber, R, 1971; Husted and Melvin, 2007).

Another major study by Sachs and Warner (1995) of 79 countries over the period 1979-89 applied the dummy variable technique of giving a country a zero value if its economy is closed and a value of 1 if it is open. It found that open economies grew on average by 2.44 percentage points faster than closed economies. Furthermore, Balassa (1989) argued that the favorable effects of trade, especially exports, on economic growth would be higher if a country employs an outward-looking industrialization strategy.

In the light of this, Greenway et al. (2002) examine the relationship between trade liberalization and growth within a new growth theoretical framework using panel data analysis for 73 countries over the period 1975-93. As a result, they found the impact of liberalization on growth in the first year, is

negative (but not significant), in the second year it is positive but not significant, and in the third year it is positive and significant. Though greater openness may confer benefits on countries, it may also impose costs, particularly in the short term, if trade liberalization leads to a faster growth of imports than exports leading to unsustainable balance of payments deficits. In other words, trade liberalization may have a “J-curve” effect on growth, with the effects taking time to come through (Thirlwall, 2003).

1.1.10. Political Instability

Political instability is inversely related to economic growth due to the fact that the rate of saving and investment tends to be low in countries with frequent wars, revolutions, and coups (Mankiw, 2003). Both political stability and macroeconomic stability are essential if markets are to work effectively in guiding resource allocation and fostering confidence among economic agents in the economy. Almost all the rapidly growing East Asian countries experienced periods of political stability during the key development years, whereas many SSA countries experienced frequent and long-time political instability which contributed for the existing low level of socio-economic development in those countries.

However, in recent years there is a sign of hope in the majority of African countries in terms of political stability. For instance, countries such as Angola, Ethiopia, Liberia, Sierra Leone, Rwanda, Mozambique, Burundi, and Uganda, which experienced serious political instability and frequent civil wars in the 1980s and early 1990s, are now relatively stable. Generally, as a result of greater political stability combined with sound macro-economic policies, many SSA countries in recent years have produced encouraging economic performances.

6.1.11. Rule of Law

Institutional differences are sources of comparative advantage and hence a determinant of the pattern of trade flows (Levchenko, 2004). The theory hypothesizes that countries with “good governance” environments (e.g. rules of law) tend to attract more FDI. A “good governance” infrastructure should include an effective, impartial and transparent legal system that protects property and individual rights, public institutions that are stable, credible and honest; and government policies that favor free and open markets. These conditions encourage FDI and presumably private domestic investment as well, by protecting privately held assets from arbitrary direct or indirect appropriation.

For instance, most of the research findings on China’s development confirm that if China manages to reduce red tape and corruption and enhance better rule of law and property protection, it can even double its FDI. Similarly, the Indian experience clearly shows that enhancing “democracy” is not necessarily sufficient for “good governance.” A study by Vittal (2001) shows that if corruption levels in India come down to those of Scandinavian countries, the GDP growth would increase by 1.5% and FDI

will grow by 12 %. Generally, it is evident that a country’s economic performance over time is determined to a great extent by its political, institutional and legal environment. It is rational to argue that inventions and innovations can be promoted only when they are well protected through protection of intellectual property. In other words, the technological progress of any country depends on the level of inventions, which in turn depends on the level of protection available to the intellectual property in the form of patents and other forms of protection. This study, therefore, used “the rule of law” variable as a proxy for the quality of institutions.

Generally, based on the theoretical approach and previous empirical works discussed above, the independent variables and their expected relationships with economic growth have been summarized in Table 6.1.

Table 6.1: Determinants of Economic Growth, their Expected Signs and Data Sources

Variable	Indicator	+/-	Data Sources
Vertical Diversification	The Ratio of Manufactured Exports to Total Exports	+	Own calculation based on data from World Bank and UNCTAD databases.
Horizontal Diversification	Number of Export Products based on SITCs three-digit products classification.	+	UNCTAD Database
Domestic Capital	Ratio of GFCF to GDP	+	WDI Database
FDI	Ratio of net FDI to GDP	+	WDI Database
Human Capital <ul style="list-style-type: none"> • Education • Health 	Secondary School Enrollment Ratio to total population with age 15 and above.	+	Barro-Lee (2001) and supplemented by data from WDI for some countries and for years beyond 2000 for all countries in the sample.
	Life expectancy at birth	+	WDI Database
Initial GDP/C	Initial Real per capita GDP in US \$	-	IMF Database
Population Growth	Annual growth in population	+	Summer et al (2006) Penn World Table
Exchange Rate	Exchange rate of local currency with that of US\$	+	Summer et al (2006) Penn World Table Version 6.2
Openness	Degree of openness based on Sachs and Warner (1995)	+	Summer et al (2006) Penn World Table Version 6.2
Political Instability	Collier and Hoeffler’s (2004) ‘War dummies’ for countries suffered from war.	-	Collier and Hoeffler (2004) war index tables
Rule of Law	Civil Liberty Index	+	World Freedom House

6.2. Data and Facts

This study has made an intensive empirical analysis for a panel of 41 countries (32 from SSA and 9 from East Asia) over the period 1975 to 2004. Panel data are better able to identify and measure effects that are simply not detectable in pure cross-section or pure time series data. In growth studies, use of raw annual data should be avoided since the results might be affected by short-run business cycle effects (Folster and Henrekson, 2001). Moreover, since one of the aims of this analysis is to investigate economic convergence in SSA and East Asia in the long-term, it would not be wise to use annual data. In this study, therefore, following similar approaches such as Barro and Sala-i-Martin (2004:522), averages over five-year periods are used instead of annual observations resulting in a six five-year periods covering the years from 1975 to 2004. Hence, most of the variables including domestic investment, FDI, exchange rate, openness, and other control variables are measured using their averages over a five-year period. However, initial GDP per capita and initial human capital (educational attainment and life expectancy) variables are taken only at the beginning of each five-year periods, since these variables stand as instruments by themselves. Furthermore, there is a reasonable justification that what eventually happens to an economy depends greatly on the point of departure and this is called "*path dependence*" and identified by economists as an important feature of the growth process. As Hurwicz (1995) notes, there is mounting evidence that large qualitative differences in outcomes can arise from small (and perhaps accidental) differences in initial conditions or events. Thus, one of the initial conditions affecting economic growth includes levels of initial educated labor and initial GDP/capita.

The education variable which is one of the components of "human capital" has been captured by the "secondary school enrollment ratio." Secondary school enrollment often captures those skills necessary in a modern, manufacturing economy (Baum and Lake, 2003). Apart from using the "school enrollment ratio" variable, "education-square" variable has also been included to capture diminishing or increasing effects on the dependent variable (GDP/Capita growth). It is widely known that non-linear functions such as quadratic functions are used quite often in applied economics to capture decreasing or increasing marginal effects (Wooldridge, 2006).

For instance, if the estimated coefficient of education variable in the regression model is positive and while the estimated coefficient of education-square variable is negative, the quadratic has a parabolic shape. On the other hand, if the estimated coefficient of education in the regression model is negative and the estimated coefficient of education-square is positive, the quadratic has a U-shape with the implication of increasing marginal effects (Wooldridge, 2006:201). The interpretation for such kinds of results is that, at lower values of education (the school enrollment ratio), there is no significant effect on GDP/C growth. At some point, however, the effect becomes positive and very significant.

Accordingly, the turning point (minimum or maximum) of the function is always achieved at the following point.

$$X^* = |\beta_1 / (2 \beta_2)| \tag{5}$$

where, β_1 and β_2 are the estimated coefficients of the education and education-square variables respectively.

6.3. Research Methodology: Model Specification for Economic Growth

The augmented Solow (1956) growth model by Mankiw, Romer, and Weil (1992) provides an intuitive and theory-based framework for testing the diversification-led growth hypothesis and analyzing the relationship between export diversification (vertical as well as horizontal) and GDP per capita growth. In the augmented Solow growth model, a measure for human capital is added as an additional determinant of growth. Hence, the model applies the following augmented Cobb-Douglas production function framework with three inputs:

$$Y = K^\alpha H^\lambda (AL)^{1-\alpha-\lambda} \tag{6}$$

where Y is output, K is physical capital, H is human capital, A is the level of technology, and L is labor. The parameters α and λ are positive, and $\alpha + \lambda < 1$. By taking the log on both sides of equation (6) and decomposing physical capital (K) into domestic investment (DOMINV) and foreign direct investment (FDI), the growth equation will take the form:

$$\text{Log}(Y_{it}) = \text{log}(\beta_0) + \beta_1 \text{log}(\text{HUMCAP}_{it}) + \beta_2 \text{log}(\text{DOMINV}_{it}) + \beta_3 \text{log}(\text{FDI}_{it}) + \beta_4 \text{log}(L_{it}) + \beta_5 Z_{it} + \varepsilon_{it} \tag{7}$$

where HUMCAP, DOMINV, FDI and L; are human capital, domestic investment, foreign direct investment and labor force respectively, and i indexes the countries under study, t denotes the year, Z_{it} represents the set of additional control variables including macroeconomic policy variables as mentioned in Table 6.1, and ε_{it} is the idiosyncratic error term.

Based on the theories thoroughly discussed in chapter two of this thesis, there is strong evidence for the link between export diversification and growth. For instance, Romer (1990) explains that export diversification can be considered as an input (a production factor) that increases the productivity of the other factors of production. Indeed, similar studies by a number of researchers such as Hesse (2008), Agosin (2007), Glyfason (2002), Amin Gutierrez and Ferantino (1997) and Herzer et al (2004) also analyzed the effects of export diversification on economic growth.

Thus, the model that integrated vertical and horizontal export diversification will be specified as follows:

$$Y_{it} = \beta_0 + \beta_1 \text{HUMCAP}_{it} + \beta_2 \text{DOMINV}_{it} + \beta_3 \text{FDI}_{it} + \beta_4 \text{VDIV}_{it} + \beta_5 \text{HDIV}_{it} + \beta_6 Z_{it} + \varepsilon_{it} \quad (8)$$

where, VDIV and HDIV denote vertical and horizontal export diversification, respectively; and the remaining determinants are already listed in table 6.1 above.

On the other hand, Imbs and Wacziarg (2003) noted that there is a *reverse causation (two-way causality)* from diversification to growth, and again from growth to diversification. Similarly, there is a reverse causation from growth to investment, in addition to the causation from investment to growth (Blomstrom et al., 1993, Lipsey and Zejan, 1993, and Barro and Sala-i-Martin, 1999). In other words, investment not only causes economic growth, but also economic growth influences the propensity to invest.

Thus, one should decide whether it is necessary to use an instrumental variable¹¹ and/or whether a set of estimates are consistent or not. Davidson and Mackinnon (1993) suggest an augmented regression test called the *Durbin-Wu-Hausman (DWH test) test for endogeneity*, which can easily be carried out for the residuals of each endogenous right-hand side variable, as a function of all exogenous variables. After getting the residuals, then an augmented regression analysis can be performed for the main dependent variable (economic growth) on all exogenous variables, the expected endogenous variables, and their predicted residuals. Finally, test for the residual will be conducted, and if it is significantly different from zero, then OLS is not consistent. In other words, it is endogenous and needs to be instrumented. Accordingly, the *Durbin-Wu-Hausman test* for the suspected endogenous variables and the test-statistic results are displayed in table 6.2 below.

Table 6.2: Durbin-Wu-Hausman (DWH) Endogeneity Test and Results

Variables	Test for Residuals	P-Value
Vertical Diversification	vdiv_res =0	0.0061***
Horizontal Diversification	hdiv_res =0	0.0001***
Domestic Investment	gfcf_res =0	0.0986*
Foreign Direct Investment	fdigdp_res =0	0.0001***
Openness	openness_res =0	0.0078***
Exchange Rate	exchange_res =0	0.0005***
GDP Initial	GDP_initial_res =0	0.0000***

*P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.

¹¹ If the independent variables and the error term are contemporaneously correlated, the usual regression estimators like OLS are biased as well as inconsistent. Hence, the method of instrumental variables can be used to obtain consistent estimators (Gujarati, 2003:337).

Hence, it can be noted from table 6.2 that, except the domestic investment variable which has become significant at the 10% level, all suspected endogenous variables have become statistically significant at the 1% level. In sum, the above variables are indeed endogenous and should be instrumented with appropriate instrumental variables. Therefore, if the assumption of strict exogeneity of the explanatory variables with the idiosyncratic errors fails to be accepted, then, we cannot apply common panel data analysis approaches such as random effects (RE), fixed effects (FE), and first differencing (FD) methods. As a result, it is preferable to use a three stages least square (3SLS) estimation techniques with instrumental variables in addition to Zellner's (1962) SUR estimation approach that is popular since it captures the efficiency due to the correlation of the disturbances across equations (Baltagi, 2005:107). Accordingly, a 3SLS method is the most familiar method of instrumental variables estimation in a simultaneous equation model (SEM). As Wooldridge (2002:183) put it:

“An equation in an SEM should represent a causal relationship; therefore, we should be interested in varying each of the explanatory variables, including any that are endogenous – while holding all the others fixed. Put another way, each equation in an SEM should represent some underlying conditional expectation that has a causal structure.”

Thus, the instruments for the identified endogenous variables comprise some of the original variables and lags of the other variables. Lag variables are reasonable candidates as instruments because the correlation of the residuals in the growth regressions between the two periods is never substantial (Barro and Sala-i-Martin (1997). Accordingly, the average value of vertical export diversification, horizontal export diversification, domestic investment, FDI, exchange rate, and degree of openness for the preceding five years have been considered as instruments for the above variables respectively. On the other hand, school enrollment ratio, population growth, political instability, and property rights are considered as pre-determined, and they enter as their own instruments in the regressions.

In line with this, a test for heteroscedasticity was conducted by using the *Breusch-Pagan test*, *White test*, and *Cook-Weisberg (Score) test* and as a result the null-hypothesis of homoscedasticity was rejected at 1%, 1%, and 10% significance levels, respectively. This implies that there is evidence of heteroscedasticity in which the error variance is not constant. Hence, corrective measures were taken and the standard errors have been adjusted accordingly. Likewise, a test for serial correlation for the error terms was conducted using *Wooldridge test for autocorrelation* in panel data and the result yields a p-value of 0.2526, that implies there is no evidence of serial correlation (first order autocorrelation) and hence the error terms are not correlated.

Though a stationary test for panel data is a recent phenomenon, this study employed the *Levin-Lin-Chu test for stationarity* and as a result the null-hypothesis of non-stationarity was rejected at the 1%

significance level; i.e. the growth dependent variable is stable with constant mean, variance and standard error.

6.4. Empirical Results and Main Findings

6.4.1. Descriptive Statistics

The average annual growth in income per capita for the full sample (Table 6.3) was about 1.2 % with a minimum growth rate of -12 percent and a maximum growth rate of 11 percent. The descriptive statistics from the sub-samples of SSA and East Asia also confirm that the average growth in income per capita in SSA was only 0.21 percent, while that of East Asia was 4.64 percent over the same period of time (Table 6.4). What is most astonishing is the wide variation in income per capita growth for the SSA sub-sample that ranges from -12 percent (minimum) for Congo Democratic Republic over the period 1990-94 to about 11 percent (maximum) that was recorded for Congo Republic¹² over the period 1980-84. This implies that SSA countries themselves are characterized by wide variations in economic performance due to various institutional and country specific macroeconomic policy constraints. On the other hand growth in income per capita in East Asia also varies from -1.2 percent (minimum) recorded for the Philippines over the period 1980-84 to 9.6 percent (maximum) for China over the period 1990-94.

Table 6.3: Descriptive Statistics of Variables for the Full-Sample

Variable	Observation	Mean	Std. Dev.	Minimum	maximum
GDP/Capita Growth	246	1.180	3.648	-12	11
Vertical Diversification	246	24.914	28.962	0.001	96.4
Horizontal Diversification	246	94.001	76.024	4.8	233
Domestic Investment	246	19.999	8.236	3.6	48
Foreign Direct Investment	246	1.913	3.325	-5.4	26.36
Exchange Rate (in log)	246	1.58	1.802	-11.539	4.321
Initial GDP (in log)	246	3.136	0.483	2.292	4.469
Population Growth	246	2.386	1.034	-5	6
Initial Human Capital	246	17.953	15.217	0.9	61.9
Human Capital-Square	246	552.931	804.038	0.81	3831.61
Life Expectancy	246	54.224	10.897	37	81
Exchange Rate	246	1.583	1.802	-11.539	4.321
Degree of Openness	246	13.993	5.864	5.944	54.376
Political Stability	246	0.293	0.456	0	1
Rule of Law	246	4.675	1.447	1	7

¹² Congo Republic and Congo Democratic Republic are two neighboring sovereign states found in central Africa.

Though the average vertical diversification index in the full-sample was estimated to be 24.9 percent, a close look at the sub-samples confirms that SSA's vertical export diversification index has been only 13.4 percent compared to East Asia's 66 percent performance.

The divergent performance of East Asia and SSA in economic activities is not only seen in vertical diversification but in horizontal diversification as well. Moreover, the evidence from table 6.4 reveals that the average number of export goods from SSA was estimated at 64, while it was about 202 for East Asia. Generally, the evidence shows that East Asia and SSA have become more and more divergent in their diversification performances both vertically and horizontally.

Similar statistics on the remaining important variables confirm similar wide gaps as already exhibited in the case of the diversification performances of the two regions. For instance, the average fixed capital formation as a ratio of GDP in East Asia was about 29 percent, whilst it was only 18 percent in SSA. Similarly, the average FDI ratio to GDP in East Asia was recorded at 3.3 percent, while it was only 1.5 percent in SSA, indicating a low level of FDI inflow into SSA due to various reasons including the inadequacy of the trained labor force, poor infrastructure, political instability, and unfavorable macroeconomic conditions in host economies.

A similar comparison of SSA and East Asia for their secondary schooling attainment varies from an average of 13 percent for SSA to 35 percent for East Asia which reflects East Asia's high commitment to investing in human capital through education.

Table 6.4: Descriptive Statistics of Variables for East Asia and SSA Sub-Samples

Variable	East Asia				Sub-Saharan Africa			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
GDP/Capita Growth	4.64	2.42	-1.2	9.6	0.21	3.34	-12	11
Vertical Div.	65.88	28.93	1.78	96.4	13.39	15.36	0.01	74.43
Horizontal Div.	201.64	36.43	91	232.8	63.73	53.37	4.8	233
Domestic Investment	28.92	5.61	17.6	45.8	17.49	7.03	3.6	48
FDI	3.28	4.37	-0.82	17.84	1.53	2.86	-5.4	26.36
Initial GDP/Capita	3.64	0.50	2.36	4.47	3.0	0.37	2.29	4.18
Population Growth	1.59	0.79	0	3.2	2.61	0.98	-5	6
Education (Initial)	34.8	14.10	8.3	61.9	13.22	11.79	0.9	57
Education-Square	1406.2	947.38	68.89	3831.61	312.95	562.55	0.81	3249
Life Expectancy	69.69	6.52	53	81	49.88	7.34	37	72
Exchange Rate	1.47	1.06	0.19	3.96	1.61	1.96	-11.54	4.32
Openness	11.27	2.75	6.42	17.67	14.76	6.27	5.94	54.38
Political Instability	0.22	0.42	0	1	0.31	0.47	0	1
Rule of Law	3.81	1.67	1	7	4.92	1.28	1.6	7
No. of observations	54				192			

Likewise, life expectancy at birth which captures health capital shows that the East Asian population has almost of 70 years of life expectancy at birth on average whereas, SSA's population at birth has an average life expectancy of only 49.9 years. The descriptive statistics from the sub-samples in table 6.4 show that the average population growth in SSA was about 2.61 percent, while it was only about 1.6 percent for East Asia, implying that SSA is characterized by high population growth which is believed to be one of the impediments to capital accumulation across the region. Moreover, it is well-known that the majority of SSA populations are under working age, and it is believed that the higher population growth rate has also contributed to the sluggish economic growth in the continent.

6.4.2. Partial Correlation of Growth in Income per Capita with the Independent Variables

The degree of association between growth per capita and the independent variables have been investigated and the findings are displayed in table 6.5 below. Accordingly, it has been found that vertical export diversification is positively and significantly correlated with growth in income per capita at the 1 percent level of significance.

However, no evidence has been found that horizontal export diversification is correlated with income per capita growth, implying that increasing the number of export products alone would not bring economic growth unless it is supported by vertical diversification and structural change from traditional and low-return export products towards more vibrant and value-added export products.

As hypothesized at the outset, the study found that domestic capital as well as foreign capital in the form of FDI is positively and highly correlated with growth in income per capita. Similarly, initial income per capita is negatively correlated with growth in income per capita, implying the neo-classical economic growth model prediction that poor countries can grow faster than rich countries based on "conditional convergence" and "catching-up" assumptions.

The study also found that health capital which is captured by life expectancy at birth, a depreciating and stable exchange rate policy, and last but not least, political stability are positively and significantly associated with growth in income per capita. Thus, the consistency of the findings from the partial correlation analysis in table 6.5 will be further checked against the findings to be revealed from the regression analysis in the following sections.

Table 6.5: Partial Correlation of Growth per Capita with the Independent Variables

Variable	Growth per capita	
	Corr.	Sig.
Vertical Export Diversification	0.1743	0.008***
Horizontal Export Diversification	-0.0134	0.838
Domestic Investment	0.4115	0.000***
Foreign Direct Investment	0.1873	0.004***
Initial GDP	-0.2972	0.000***
Population Growth	0.0250	0.704
Education (initial)	-0.0334	0.612
Squared-Education	0.0431	0.512
Life Expectancy	0.1830	0.005***
Exchange Rate	0.2079	0.001***
Openness	-0.0962	0.142
Political Stability	0.1143	0.081*
Rule of Law	-0.0881	0.179

***P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.**

6.4.3. Regression Results and Main Findings

The empirical results for the full-sample have been provided in table 6.6 based on (i) SURE estimation techniques, and (ii) 3-Stages Least Square Estimation with instrumental variables under different scenarios. Hence, “vertical export diversification” has been found to be one of the major determinants of economic growth which is statistically significant at the 1 percent level using SURE estimation techniques. For instance, the coefficient of vertical diversification in column 1 of table 6.6 using SURE-I model implies that a one percentage increase in the share of manufactured products in total exports results in a 3.2 percent increase in GDP per capita. Likewise, the coefficient of this same variable in column III of table 6.6 has become 0.0342 and this again implies that a one percentage increase in the share of manufactured products in total exports results in a 3.4 percent increase in GDP per capita.

It is however interesting to note that the importance of vertical diversification to GDP per capita growth is not similar between East Asia and SSA as shown in table 6.7. While vertical export diversification is statistically significant at the 1 percent level in the case of East Asia’s sub-sample using all four models including using instrumental variable analysis for endogeneity concerns, it can be noted that vertical export diversification is statistically significant for the SSA sub-sample only using the SURE-I and SURE-II regression models, and is insignificant using instrumental variable analysis.

This finding re-confirms the widely held view that East Asia’s success in economic growth for the last three or four decades was mainly based upon structural transformations by shifting from the production and export of low return primary products to high return and demand elastic export products,

mainly in the manufacturing and service sectors, i.e. vertical diversification. For instance, column 1 of table 6.7 shows that a one percentage increase in the share of manufactured products in total exports may contribute to a more than 6.5 percent increase in GDP per capita growth in East Asia.

On the other hand, the reason why the effect of vertical export diversification on growth in income per capita is not impressive in SSA, especially when it is instrumented, is that most of the SSA countries are still dependent on the production and export of few primary commodities for their economies and the share of manufactured products in total exports is still under the threshold level to make any impact on economic growth. This calls for the SSA region to exert a strong effort to vertically diversify its exports from the existing few primary products to a large mix of value-added manufactured products, as witnessed in East Asia.

The findings from table 6.6 and 6.7 indicate no evidence that horizontal export diversification affects growth in income per capita for the full-sample analysis, the East Asia sub-sample, and the SSA sub-sample. The implication is that increasing the number of new export products per se cannot accelerate economic growth unless it is accompanied by increasing the share of value-added export products with strong demand and high return on the world market through vertical diversification. From the preceding discussion, therefore, it can be emphasized that vertical export diversification has a dynamic role in propelling economic growth as is already evident in most of the East Asian economies.

The study also confirms that domestic investment and FDI are strong key factors for growth in income per capita (Table 6.6), in line with the research hypothesis at the beginning of this thesis. For instance, the coefficient of domestic investment from column 1 of table 6.6 indicates that a one percentage increase in the ratio of fixed capital formation to total GDP will increase GDP/capita by 19.5 percent. Similarly, the results from the instrumental variable estimation in the same table of column 3, and 4 confirms that a one percent increase in the ratio of gross fixed capital formation to GDP yields increases of about 19.5% and 10.4% respectively in growth in GDP per capita.

Similar to domestic investment, FDI has been found to be a very strong factor to induce growth in income per capita as shown in table 6.6. Accordingly, the FDI variable has been found to be statistically significant at the 1 percent level by using both SURE and instrumental variable estimation techniques. Accordingly, the findings from column 1-4 of table 6.6 reveal that a one percent increase in the ratio of FDI to GDP would result in 17.8%, 29.9%, 17.9 %, and 24.2% increase in GDP/C growth, respectively.

Table 6.6: SURE and 3-Stage Least Square Estimation (with instrumental variables) for factors influencing economic growth per capita /Full Sample/

GDP/C growth	SURE-I	INST-I	SURE-II	INST-II
Vertical Diversification	.0318*** (.0108)	.0179 (.0141)	0.0342*** (.0107)	.0177 (.0134)
Horizontal Diversification	.0017 (.0040)	.0040 (.0052)	.0001 (.0039)	.0059 (.0049)
Domestic Investment	.1947*** (.0284)	.0655 (.0488)	.1954*** (.0282)	.1043** (.0449)
FDI	.1784*** (.0583)	.2989*** (.1011)	.1787*** (.0580)	.2416*** (.0902)
Initial GDP	-3.2477*** (.6661)	-3.6889*** (.7727)	-3.3808*** (.6887)	-3.3253*** (.7227)
Population Growth	0.0524 (.1987)	.0077 (.2116)	.0859 (.1999)	.0450 (.2087)
Education- initial	-.0143 (.0469)	-.0330 (.0510)	-.0303 (.0469)	-.0544 (.0498)
Education-square	0.0005 (.0008)	.0009 (.0009)	.0005 (.0008)	.0009 (.0397)
Life Expectancy	.0971*** (.0357)	.1631*** (.0418)	.1114*** (.0357)	.1497*** (.0397)
Exchange Rate	0.3369*** (0.0979)	.4618*** (.1096)	.3434*** (.0998)	.4142*** (.1071)
Degree of Openness	-0.0678** (0.0318)	-.0530 (.0474)		
Political Stability			1.0025** (.4121)	.8894** (.4265)
Rule of Law			.1981 (.1488)	.1910 (.1544)
Constant	1.4996 (2.0428)	1.3182 (2.3109)	.7878 (2.4972)	.2769 (2.6842)
No.of obs.	246	246	246	246
R Square	0.4679	0.4165	0.4727	0.4453

***P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.**

Interestingly, the results from the full-sample analysis are more or less consistent with the results from the SSA and East Asia sub-samples analysis (table 6.7). In particular, the results from the East Asia sample confirm that FDI has been one of the major factors for the region's fast growth in income per capita for the last three decades. If we examine column 1 of table 6.7, for example, the findings indicate that a one percent increase in the ratio of FDI to GDP in East Asia may bring about a 27.1 percent increase in GDP/C growth. Even when some of the endogenous variables are instrumented, as shown in

column 2 of table 6.7, the findings indicate that a one percent increase in the ratio of FDI to GDP in East Asia may result nearly a 58.7 percent increase in GDP/C growth.

However, the effect of FDI on growth in GDP/C has been less significant in SSA compared to East Asia. For this reason, FDI is statistically significant only at the 10% level for the SSA sub-sample using the INST-I regression model, and may not even be significant in SSA using the results of the INST-II regression model. This is because FDI in many of SSA countries is too low to bring about substantial change in the economy and it concentrated only in few oil producing and mineral-rich countries like Nigeria, Angola, and South Africa.

Moreover, the empirical evidence from the East Asian sub-sample analysis confirms that it was FDI rather than domestic capital which contributed to economic growth in East Asia. The East Asian experience therefore implies that policy makers in SSA should learn from its past policy failures and create stable macroeconomic and institutional environments that are instrumental in developing strong confidence for local as well as foreign investors so as to enhance both domestic and foreign direct investment that would be used as a source of capital accumulation, and thus to speed-up rapid and sustainable economic growth in the region.

Human capital in this study refers both to education and health. In view of this, the *education* variable has been proxied by the level of secondary school enrollment. Additionally and importantly, the variable “education-squared” has been added as one of the explanatory variables just to capture the increasing or diminishing marginal effects of education on growth in income per capita, since endogenous growth theory predicts an increasing marginal return to human capital, and especially to education. Furthermore, there is strong justification in that school enrollment/attainment will have a delayed effect on long-term growth.

Accordingly, it has been found that the coefficient of the *school enrollment ratio* is negative and the coefficient of *education-square* is positive both in the full sample and the sub-samples analyses, which implies that the growth model will exhibit a *U-shape* with the implication of *increasing marginal effects*. The interpretation for such a results is that, at lower levels of school enrollment, additional school enrollment will not have a significant effect on growth. At some point, however, the effect becomes positive and very significant. In this case, the empirical evidence from our analysis shows that the marginal effect of education has become more statistically significant in the case of East Asia than SSA. For instance, the marginal effect of school enrollment to growth in East Asia from column 1 (using SURE-I) and 2 (using INST-I) of table 6.7 confirm that a one percent increase in secondary school enrolment ratio will lead to an increase in growth per capita income of approximately 0.3 percent and 0.4 percent respectively. On the other hand, the study found no evidence for the education variable to be statistically significant for the SSA sub-sample, perhaps due to a low level of educated labor that is under the threshold level with no significant effect on growth. In practice, it is important to know where this turning point in the marginal effect of education will occur.

Table 6.7: SURE and 3-Stage Least Square Estimation with Instrumental Variables for East Asia and SSA Sub-Samples

GDP Growth	East Asia				SSA			
	SURE-I	INST-I	SURE-II	INST-II	SURE-I	INST-I	SURE-II	INST-II
Vertical Diversification	.065*** (.017)	.090*** (.023)	.058*** (.016)	.056*** (.021)	.04*** (.015)	.021 (.023)	.035** (.016)	.009 (.022)
Horizontal Diversification	.006 (.009)	.008 (.014)	-.001 (.009)	.017 (.015)	-.005 (.004)	-.003 (.006)	-.003 (.005)	-.001 (.006)
Domestic Investment	.136*** (.046)	.055 (.095)	.060 (.053)	.055 (.097)	.17*** (.036)	-.021 (.073)	.164*** (.034)	.037 (.061)
FDI	.271*** (.086)	.587*** (.155)	.191** (.081)	.380*** (.133)	.216*** (.083)	.518* (.268)	.183** (.082)	.275 (.212)
Initial GDP	-5.17*** (1.241)	-8.125*** (1.855)	-3.693*** (1.305)	-5.33*** (1.706)	-1.981** (.949)	-.934 (1.154)	-1.964** (.941)	-1.109 (1.059)
Population Growth	.256 (.472)	.633 (.632)	.312 (.453)	.371 (.533)	.260 (.236)	.256 (.266)	.257 (.232)	.249 (.248)
Education-initial	-.212 (.093)	-.298 (.120)	-.197 (.113)	-.184 (.123)	-.059 (.059)	-.072 (.069)	-.083 (.059)	-.092 (.064)
Education-square	.003** (.001)	.004** (.002)	.003* (.002)	.003* (.001)	.001 (.001)	.001 (.001)	.002 (.001)	.001 (.001)
Life Expectancy	-.014 (.128)	.065 (.161)	-.012 (.156)	-.062 (.170)	.061 (.044)	.119** (.051)	.092** (.044)	.123*** (.047)
Exchange Rate	.068 (.425)	.813 (.583)	.184 (.407)	.573 (.499)	.328*** (.108)	.42*** (.128)	.342*** (.109)	.415*** (.122)
Degree of Openness	.087 (.095)	.297* (.161)			-.075** (.036)	-.041 (.060)		
Political Stability			-1.518 (1.071)	-1.889 (1.328)			1.52*** (.504)	1.359** (.552)
Rule of Law			.479* (.249)	.133 (.353)			.491*** (.187)	.542*** (.207)
Constant	15.656 (6.262)	17.780 (7.470)	13.214 (8.060)	19.513 (9.162)	-.481 (2.687)	-3.563 (3.282)	-.565 (3.092)	-1.984 (3.337)
No.of obs.	54	54	54	54	192	192	192	192
R- Square	0.5551	0.4149	0.6014	0.5441	0.2940	0.1693	0.3234	0.2692

*P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.

According to Wooldridge (2002), the turning point (minimum or maximum) of the function that the effect of education becomes very significant is always achieved at the coefficient on education over the absolute value of the coefficient on education-square and is roughly estimated as follows:

$$\text{Education}^* = |\beta_1 / (2 \beta_2)| \quad (7)$$

where, β_1 and β_2 are the coefficients of education and education-square, respectively. For instance, the coefficients of education and education-square in column 1 of table 6.7 of the East Asian sample using SURE-I regression model are -0.212 and 0.003, respectively. Thus, the turning point (minimum) value of school enrolment ratio can be calculated as:

$$\text{Education}^* = |-0.212 / 2(0.003)| = |-0.212/0.006| = 35.3$$

This implies that it is after a school enrollment ratio of 35.3 % that the turning point occurs such that the marginal effect of education on income per capita growth becomes statistically significant. Similarly, the turning point (minimum) value of school enrolment ratio in SSA can be estimated from column 5 of table 6.7 using SURE-I regression as follows:

$$\text{Education}^* = |-0.059 / 2(0.001)| = |-0.059/0.002| = 29.5$$

However, the average school enrollment ratio estimated for SSA in the descriptive statistics table 6.4 was only 13.2 % which is too low compared to the estimated minimum enrollment ratio (29.5%) to stimulate economic growth in the region and that is why the education variable has become less significant for economic growth in the SSA sub-sample. Thus, low levels of educated/skilled labor represent a barrier to development in SSA, which impedes competitiveness. Any attempt to reduce the gap between SSA and other developed regions must therefore incorporate a better understanding of the mechanisms that underlie the process of human capital formation.

Interestingly, another important element of human capital, i.e., health was captured by life expectancy at birth and the study found this same variable statistically significant at the 1% level, for the full sample, implying that a healthy labor force is crucial for sustainable economic growth. The importance of the health variable is very much noted in the case of SSA since the region is highly affected by health-related impediments such as malaria, HIV/AIDS, and other infectious diseases that have put the average life expectancy at only 50 years compared to East Asia's average life expectancy of almost 70 years.

One of the most notable results from the full sample analysis is that initial GDP per capita (level of development of a given country at the beginning) is found to be a strong negative determinant to growth in income per capita, which confirms the Solow-Swan- Ramsey hypothesis of absolute convergence implying that poorer countries grow faster than the richer ones and thereby catch up to the richer countries. For instance, the coefficient for initial GDP/C in column 4 of table 6.6 (using INST-II

regression) for the full-sample analysis is estimated at -3.3253. This implies that convergence occurs at the rate of 3.3% per year.

The results of the full-sample analysis on the effect of initial GDP/C on growth are quite consistent with the results in the East Asia sub-sample analysis (Table 6.7). In fact, the rate of convergence in East Asia has been recorded as much higher than the rate of growth estimated for the full samples. For instance, the coefficients of initial GDP/C in columns 1 (using SURE-I regression) and column 2 (using INST-I regression) of table 6.7 indicate that convergence in East Asia occurs at the rate of 5.2 %, and 8.1%, respectively. These results appear to be much closer to the reality on the grounds that East Asia has started from a very low level of income per capita and achieved a tremendous success and are now much closer to the developed world.

However, this same variable (initial GDP/Capita) in the SSA sub-sample (Table 6.7) was found to be less significant regardless of its negative sign than theoretically proposed. The results from the instrumental variable analyses of column 6 &8 of table 6.7 found no significant evidence of convergence in SSA catching up with rich countries in the past three decades. This again confirms that SSA which was once on an equal level of income per capita with East Asia has experienced a stagnation even sometimes negative economic growth during the past three or four decades. However, though it was not significant, the negative sign of the coefficient suggests some indications of convergence in the region.

Theoretically, the effects of population growth on economic growth are disputable. On one hand, the Solow model predicts that economies with higher rates of population growth will have lower levels of capital per worker and therefore lower incomes. On the other hand, the endogenous growth theory predicts that population has scale effects and hence larger population and larger economies perform better. Coming to the empirical results in our analysis both for the full-sample and the sub-samples, no evidence has been found for population growth to be a significant factor for growth in income per capita.

The exchange rate has been found to be positively and statistically significant at 1 percent level for the full sample analysis. This implies that a depreciating local currency would result in stimulating production and boosting exports. For instance, column 2 of the instrumental variable estimation in table 6.6 implies that a one percentage decrease in the value of the local currency against the US\$ will result in a 0.46% increase in GDP per capita growth. The effect of the exchange rate on growth in income per capita however was not significant in East Asia, while strong evidence has been found for a depreciating currency to be significantly associated with growth in the case of SSA.

Of course, previous studies of the effect of exchange rate policy on economic growth in East Asia have also recorded mixed results. Thus, the present finding in this study which disclosed no evidence of significance for the role of exchange rate policy on economic growth is still in line with the results of other previous empirical studies.

Other control variables such as degree of openness and rule of law have been found to be significant determinants of economic growth both in East Asia and SSA. Likewise, political stability has been found to be an important determinant of economic growth which is statistically significant at the 5% level for the full-sample analysis. Interestingly, the role of political stability in economic growth was much more important in the case of SSA than East Asia. This is because it is common knowledge that Africa has been the most politically un-stable continent for the last three or four decades and it is evident that in countries with frequent wars and political turmoil, the rate of saving and investment tends to be low.

Generally, as expected and hypothesized from the outset, East Asia's success can be largely attributed to their huge investment in human capital through education and the high rate of physical capital accumulation mainly driven by foreign direct investment (FDI). However, the level of human capital (skilled labor) and physical capital formation, including the level of FDI, in SSA has been under the threshold level required to produce structural change in the economy. In line with this, countries in East Asia have managed to diversify their economies and exports, mainly vertically, and have transformed their economies from being exporters of a few primary commodities in the late 1960s and early 1970s to exporters of high valued manufacturing and service products after the mid-1980s. Unfortunately, SSA's export diversification attempt was too minimal and most of the countries in the region are still dependent on the export of a few agricultural and mineral products which are highly vulnerable to price shocks. It can be argued that the inference that SSA can replicate the East Asian experience may be relevant as long as countries in SSA create favorable conditions as discussed above.

Therefore, the state in SSA is expected to undertake strategic interventions to deal with coordination problems so as to broaden the social base for the governance structure at the national and local levels. A more recent approach for delivering basic needs relies on "local self governing institutions" and "community involvement" to improve the material conditions and autonomy of the poor. This implies that the state should play an activist role in enabling mobilization of people in local participatory development and providing supra-local support. Clearly this approach calls for effective decentralization away from the central state in the areas of resource mobilization and public outlays. Generally, the endogenous growth models identifies two broad roles for the state: (a) provision of the necessary incentives to promote adequate production and diffusion of knowledge and technology through R& D, and training and investment in education; and (b) provision of an adequate level of public services and public goods (such as infrastructure, legal and regulatory frameworks) that can generate the maximum spillover effects and are complementary inputs to the development process.

6.5. Was Growth Performance Uniform across Sub-Saharan Africa?

Though often spoken of as a single group, Sub-Saharan Africa countries are, in fact, remarkably diverse and heterogeneous in historical, political, social, and geographical terms. The region includes both middle-income and the low-income countries, some with large and some with small populations, and some with a store of natural resources and those with virtually none. Thus, it is important to examine in detail whether growth performance in SSA has been uniform since the early 1970s, and which means examining the impact of export diversification in relation to the remaining key determinants such as domestic capital, FDI, human capital, infrastructure, etc. Accordingly, an attempt has been made to further categorize Sub-Saharan African countries into low income SSA countries and middle income SSA countries. In doing so, the World Bank list of economies (2006) has been used; and therefore only six countries in all the 32 SSA countries that fall into the middle income category: Cameroun, Congo Republic, Gabon, Mauritius, the Seychelles, and South Africa. Hence, table 6.8 displays the descriptive statistics for low income SSA in comparison with middle income SSA and East Asia.

6.5.1. Descriptive Statistics

It is quite clear from table 6.8 that the mean GDP/capita for low income SSA countries from 1975-2004 was -0.06 %, which signifies not only a stagnation of per capita income per se but a retardation in income growth in the majority of SSA countries. On the other hand, the mean income per capita growth for middle income SSA countries has been found to be about 1.36 %, which is still a very low performance compared to East Asian success in the same time span (4.6%) but relatively better than low-income SSA countries performance.

Similar comparisons for vertical and horizontal export diversification for low income and middle income SSA countries against East Asia's performance show a very significant gap in performance. While the mean vertical export diversification index recorded for low income SSA was about 12 %, it was 19% for middle income SSA countries. This indicates that even the performance of middle-income SSA still lags far behind East Asia's vertical export diversification performance, which is estimated to be about 66% (table 6.8). Similarly, the mean horizontal export diversification for 'low income SSA' stands at 56, compared to about 97 for middle income SSA, and 201 for East Asia. This shows that the number of export products from middle income SSA countries is about 97, while it was only 56 for low income SSA countries. Although the performance of middle income SSA countries appears to be relatively better than low income SSA countries, horizontal diversification efforts, it is still very far behind East Asia's achievement, ie. about 202 types of export goods.

The share of domestic investment that has been proxied by the share of gross fixed capital formation to GDP it accounts about 16% in low income SSA compared with 25% in middle income SSA. Similarly, the share of FDI to GDP for low income SSA was found to be 1.3 % while it was 2.4% for middle income SSA countries, implying that SSA countries are themselves heterogeneous in terms of

domestic capital accumulation as well as in their ability of attracting foreign direct investment. Again, a comparison of SSA's performance with that of East Asia reveals that the mean shares of domestic capital to GDP and FDI to GDP in East Asia have been 28.9 % and 3.3%, respectively. In fact, the performance of middle-income SSA countries are a little bit closer to East Asia's performance, particularly regarding to the ratio of domestic capital to GDP.

Table 6.8: Descriptive Statistics of Variables for Low and Middle Income SSA, and East Asia Sub-Samples

Variable	SSA (low income)				SSA (middle income)				East Asia			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
GDP/Capita Growth	-0.06	3.20	-12	9.8	1.36	3.69	-6.4	11	4.64	2.42	-1.2	9.6
VEDIV	12.01	12.4	0.00 1	58.77	19.39	23.63	0.38	74.43	65.88	28.93	1.78	96.4
HEDIV	56.08	43.7	4.8	181.6	96.87	75.40	7.25	233	201.6	36.43	91	233
Domestic Investment	15.75	5.62	3.6	34.2	25.09	7.63	13.4	48	28.92	5.61	17.6	46
FDI	1.34	2.74	-5.4	26.36	2.36	3.26	-5	9.4	3.28	4.37	-0.82	17.8 4
Initial GDP/Capita	2.86	0.22	2.29	3.51	3.56	0.37	2.69	4.18	3.64	0.50	2.36	4.47
Population Growth	2.71	0.99	-5	6	2.16	0.82	0.8	3	1.59	0.79	0	3.2
Education (Initial)	10.05	8.19	0.9	37.3	29.15	13.97	8.5	57	34.8	14.10	8.3	61.9
Education-Square	167.7	270.7	0.81	1391. 3	1039.3	907.4	72.3	3249	1406	947.4	68.9	3831
Life Expectancy	47.68	5.05	37	61	59.39	8.17	47	72	69.69	6.52	53	81
Exchange Rate	1.60	2.13	-11.5	4.32	1.67	0.96	-0.08	2.81	1.47	1.06	0.19	3.96
Degree of Openness	14.34	6.34	5.94	54.38	16.58	5.72	9.10	31.77	11.27	2.75	6.42	17.7
Political Stability	0.35	0.48	0	1	0.17	0.38	0	1	0.22	0.42	0	1
Rule of Law	5.04	1.17	2	7	4.38	1.58	1.6	6.4	3.81	1.67	1	7
No. of observations	156				36				54			

In line with this, initial GDP/capita (in logarithmic form) for low income and middle income SSA had been estimated at 2.9 and 3.6, respectively. Coincidentally, initial GDP/capita recorded for East Asian countries was estimated at 3.6, which is similar to middle income SSA countries. This supports the basic argument at the beginning of this thesis that East Asian countries were more or less comparable with many of SSA countries three or four decades ago in terms of economic development but a huge divergence of growth occurred since then due to various reasons as discussed throughout this thesis.

One of the main differences between low income SSA, middle income SSA, and East Asian countries is that of initial human capital which was proxied by the secondary school enrolment ratio. The average secondary school enrolment ratios in low income SSA and middle income SSA were about 9.5% and 29.2%, respectively. This again reveals the wide variation in education performance existing within SSA countries, and confirms how low-income SSA that comprises the majority of African nations is performing very poorly regarding human capital formation through education. In contrast, East Asia has achieved a 34.8 % secondary school enrollment ratio and it would not be surprising to associate the level of East Asia's initial human capital to its outstanding achievement in high income per capita and increases in both vertical and horizontal export diversification.

Population growth in low income SSA was still about 2.7% while for middle income SSA it was about 2.2%. In contrast, population growth in East Asia was recorded at only 1.6%. Here again the argument that high population growth in SSA has constrained economic development appears to be valid, especially for low income SSA countries. In sum, table 6.8 confirms that SSA countries are themselves heterogeneous and consequently their performances on export diversification, structural change and economic growth are also varied. Nevertheless, even middle-income SSA, perhaps except South Africa, have still lagged behind.

In addition to the descriptive statistics discussed so far, regression analyses have been made for the growth function of low income and middle income SSA countries separately.

6.5.2. Regression Results for low-income and middle-income SSA countries

An empirical analysis has been conducted by using SURE and Three-Stage Least Square Estimations (using instrumental variables) for both the low-income and middle-income SSA countries separately in comparison with East Asia. Accordingly, the regression results displayed on table 6.9 reveal no evidence for the effect of vertical export diversification on growth in income per capita either in middle-income SSA and low-income SSA. This is quite different from the result for East Asia in the same table 6.9, that vertical export diversification was the key determinant for growth in income per capita, which is consistent with the assumptions made in the research hypothesis. On the contrary, the attempts made by the majority of SSA countries (both middle and low income) to vertically diversify their production and exports towards vibrant and value-added products are still at an early stage and have not yet contributed to economic growth.

Likewise, the results from table 6.9 reveal that it is only middle income SSA countries that have promoted horizontal export diversification, at least to some extent, which might have contributed to economic growth. This is again in line with the reality on the ground, that most of the SSA countries especially those from with low-incomes are still dependent upon the production and exports of a few primary commodities to keep their economies running. This again suggests the need for African policy makers to exert utmost efforts for export diversification both vertically and horizontally. Interestingly, the analysis from table 6.9 confirms that domestic investment is positively and statistically significant and it can play a significant role for growth in income per capita both in middle-income and low income SSA countries. The SURE as well as the instrumental variable analysis confirm a significant relationship between domestic investment and growth in the case of middle-income SSA, while only the SURE estimation confirms a significant relationship in the case of low-income SSA. In the case of East Asia, the SURE estimation suggests that domestic capital has been statistically significant at the 1% level, which implies the importance of domestic capital formation in East Asia in the development process. By the same token, the FDI variable which was found to be one of the key factors for success in East Asia was also found to be statistically significant for low-income SSA countries but not middle-income SSA countries. This was because either the sample size of middle income SSA countries in this study is small or because FDI in Africa in general has been focusing mainly on natural resource rich countries such as Nigeria, Congo Democratic Republic, Sudan, etc. and yet most of these natural resources rich countries are grouped in the low income SSA category.

Initial GDP per capita, which indicates the rate of convergence for poor countries to catch up with the rich ones, has been found to be statistically highly significant for middle-income SSA countries; but only at the 10% level of significance for low-income SSA countries. This implies that there is more evidence of middle-income SSA economies converging and catching up with the rest of the world than the low-income SSA countries, where there is little evidence of convergence. For instance, the coefficient of initial GDP per capita for middle-income SSA countries using instrumental variable analysis shows a convergence of 8.5 points every year compared to 3.3 points of convergence for low-income SSA economies in catching up with rich countries. This same variable has been found to be highly significant in the case of East Asia, using SURE as well as instrumental variable estimators, implying strong evidence of convergence in East Asian countries in catching up with the rest of the developed world.

The study reveals that population growth negatively affects income per capita growth in the case of middle income SSA countries, but is a positive factor in low income SSA countries. Likewise, no evidence has been found for the population factor affecting growth in income per capita for East Asian countries. This reminds us that the impact of population growth on the economy is still debatable. The main explanation for the positive and statistically significant population factor for growth in income per capita of low income SSA countries is that most of them are mainly dependent on the agriculture and

mineral production sectors that require tremendous amount of labor compared to other sectors such as manufacturing and services.

Table 6.9: SURE and 3-Stage Least Square Estimation with Instrumental Variables for Middle and Low Income SSA, and East Asia Sub-Samples

GDP/C growth	Low-income SSA		Middle-income SSA		East Asia	
	SURE	INST	SURE	INST	SURE	INST
Vertical Export Diversification	.025 (.018)	-.004 (.026)	-.015 (.034)	-.001 (.072)	.065*** (.017)	.090*** (.023)
Horizontal Diversification	-.001 (.007)	.011 (.009)	.026** (.012)	.023 (.037)	.006 (.009)	.008 (.014)
Domestic Investment	.141*** (.044)	-.076 (.091)	.338*** (.073)	.529** (.256)	.136*** (.046)	.055 (.095)
FDI	.241*** (.090)	.528** (.248)	-.151 (.204)	-.218 (.482)	.271*** (.086)	.587*** (.155)
Initial GDP	-2.375* (1.363)	-3.129* (1.625)	-9.126*** (2.408)	-8.535** (3.696)	-5.17*** (1.241)	-8.125*** (1.855)
Population Growth	.588** (.231)	.568** (.255)	-2.828* (1.540)	-3.982* (2.459)	.256 (.472)	.633 (.632)
Education- initial	-.186 (.094)	-.273 (.112)	-.039 (.313)	-.128 (.375)	-.212 (.093)	-.298 (.120)
Education-square	.006** (.003)	.007** (.003)	.002 (.004)	.003 (.004)	.003** (.001)	.004** (.002)
Life Expectancy	.063 (.049)	.067 (.055)	.078 (.107)	-.051 (.136)	-.014 (.128)	.065 (.161)
Exchange Rate	.415*** (.108)	.496*** (.126)	1.784 (1.134)	1.157 (2.226)	.068 (.425)	.813 (.583)
Degree of Openness	-.079** (.036)	.013 (.087)	.267 (.243)	4.117 (16.06)	.087 (.095)	.297* (.161)
Political Stability	2.043*** (.543)	1.659** (.650)	-5.929 (4.540)	-4.094 (7.296)	-1.518 (1.071)	-1.889 (1.328)
Rule of Law	.464** (.215)	.581** (.244)	.849** (.413)	.909* (.527)	.479* (.249)	.133 (.353)
Constant	1.239 (4.339)	7.211 (5.404)	25.894 (10.034)	31.844 (12.366)	15.656 (6.262)	17.780 (7.470)
No.of obs.	156	156	36	36	54	54
R Square	0.3558	0.2349	0.5645	0.4287	0.5551	0.4149

***P ≤ 0.10; **P ≤ 0.05, ***P ≤ 0.01 refer statistically significance level at 10%, 5% and 1%, respectively.**

Ironically, the education variable is statistically significant for low-income SSA countries rather than middle-income SSA countries, while its contribution to East Asian economic growth is also obvious as shown in table 6.9. Similarly, the study reveals that the degree of openness, a depreciating and stable

exchange rate policy, and political stability are much more important factors in low-income SSA countries. It is particularly worth noting that political instability has been found to be a negative factor for growth in income per capita in the case of low-income SSA, compared with either middle-income SSA or East Asia, implying that most low-income SSA countries are characterized by political turmoil, civil war and frequent coups that have made sustainable economic development impossible. This, therefore, calls for a tremendous effort in restoring peace and law in the region in order to encourage investments and savings.

In relation to this, the “rule of law” variable which is a proxy for “good governance” in this study has been found to be important and a significant factor for growth in income per capita for both low-income SSA and middle-income SSA countries. This implies that “rule of law” in a given country creates conditions that may encourage FDI and presumably private domestic investment as well, by protecting privately held assets from arbitrary direct or indirect appropriation.

In summary, the empirical analysis has revealed that unless countries invest in education and physical infrastructure through domestic investment and FDI, together with adapting a fair and open trading system along with macroeconomic and political stability, neither vertical nor horizontal export achieved. Countries from SSA need to learn from the East Asian development paradigm with regard to capital accumulation, export diversification and economic transformation.

In line with this, SSA countries ought to shift from their existing high export concentration towards a diversified and value-added production system. Hence, without neglecting the effective utilization of natural resource, policy makers in Africa should emphasize more on vertical export diversification through expanding agro-industrial and light manufacturing plants that may create backward and forward production linkages with primary sectors such as agriculture and mineral resources. It is only through this strategy that countries in Sub-Saharan Africa can rapidly catch-up with the rest of the world. Because, vertical diversification induces an increased TFP growth, enhances competitiveness, enlarges production scales, accelerated technology transfer, and enhances forward and backward linkages among various production sectors.

Chapter Seven

Conclusion and Policy Considerations

Most researchers would agree that export diversification matters for economic growth and it is especially important for developing countries. It is only after the attainment of deep diversification that countries can shift to the second stage that tends towards specialization. Hence, most developing countries today are actually in the diversifying stage of their development path, whereas, almost all developed countries are at the stage of re-concentration after successfully passing the diversification stage in the past.

This thesis, therefore, has attempted to shed some light on this by first identifying the main determinants of vertical and horizontal export diversification, and then analyzing their impact on economic growth, taking other policy, political and institutional factors into account. Accordingly, the empirical results derived both from the full sample and the sub-samples are largely consistent with the model's predictions and the research hypotheses that were posed at the outset.

First, it is worth to note that the gap between East Asia and SSA's diversification and economic performance was created mainly because of differences in policy choices, commitments, quality of economic and political institutions as well as social capability, which includes human capital and infrastructure.

Second, it has confirmed that export diversification, especially vertical diversification, has played a vital role in inducing economic growth in the case of East Asia. East Asia's success can be largely attributed to its huge investment in human capital through education and the high rate of physical capital accumulation mainly driven by foreign direct investment (FDI). Conversely, the level of human capital (skilled labor) and physical capital including FDI in SSA has been under the threshold level necessary to play a positive role in export diversification and structural change in the economy. The implication is that African governments have to mobilize not only their domestic resources, but also foreign capital through FDI by creating economic incentives, particularly "good policies" and protection of property rights in the receiving countries.

Third, the empirical results from this research have revealed that vertical export diversification is more important than horizontal in stimulating economic growth and enhancing structural economic transformation. This, therefore, calls into question the policy advice of some researchers who propose that Africa's emphasis should be on horizontal diversification through increasing the number of primary export products.

Fourth, export diversification should be considered as a process of broadening comparative advantages into new sectors, since activities that have comparative advantage today might not be suited

for export earnings tomorrow as a result of changes in factor supplies and technical progress. Thus, export diversification is a dynamic process, not static.

Fifth, although it has been widely believed that SSA may replicate the East Asian diversification experience, the road to those goals is bound to be rocky and it will not be an easy task. Thus, countries seeking to diversify must create sufficient levels of human and physical capital as well as an adequate infrastructure, and above all conducive macroeconomic policies and strong government institutions to support export diversification. Moreover, the following factors should also be taken into consideration in ensuring rapid development in SSA: high rates of savings and investment, investment in education, capital accumulation, sound macroeconomic management, relatively open trade policy, a dynamic economic sectors, maintenance of relatively equitable income distribution, and political credibility.

Sixth, export diversification does not come about itself. It is not simply a byproduct of sound macro-economic policies alone. Sustained export diversification requires concrete national, sectoral and enterprise-level strategies which are based on a realistic assessment of supply capacities and international demand and an understanding of international commercial practices, which reflect existing institutional, technical and entrepreneurial strengths.

Seventh, productive activities in diversified sectors should be interrelated with each other through backward and forward linkages. If exploited properly, this may ensure efficient utilization of resources and enhance the rate of growth. There may be backward linkages from the primary sectors (mainly agriculture and minerals) in the form of demand for output of the industrial sector. On the other hand, there may also be forward linkages from the primary sectors in that the products from these sectors may serve as inputs to the industrial sectors. In short, inter-sectoral linkages and dynamics are vital for sustained economic growth.

Eighth, the study reveals that the effect of natural resource endowment on diversification depends on the type of resources. If properly managed they can be a blessing and can be used as a source of capital formation and growth.

Ninth, a close looks at Sub-Saharan Africa by categorizing it into low income and middle income reveals that there is indeed a substantial gap between SSA countries which middle income countries have attempted to invest in education and infrastructure and thereby to diversify their exports. On the other hand, low income SSA countries are still dependent on the export of primary products and their attempt to invest on human capital and infrastructure have been minimal. As a result, SSA in general and low income SSA in particular could not escape the vicious circle of the “resource curs” effect and change its economic and social structure.

Tenth, the experience of East Asia indicates that the development of SMEs contributes to the expansion and diversification of markets as well as to increasing the savings rate and investment base as discussed in chapter three. SMEs can serve as shock absorbers, without which business cycles would be more serious, and without which the necessary structural adjustments would not be possible. Moreover,

the greater the relative importance of SMEs in the economy, the lower the income inequality is likely to be (Nugent and Yhee, 2002). Since capital is scarce in SSA and enhancing heavy industries may be challenging in the short-term, policy makers' in SSA should put more emphasis on the development of SMEs and lay a strong foundation for competitive industrial development by encouraging domestic enterprises to grow and expand internationally. Moreover, SMEs are acknowledged to be strategically important for industry restructuring, for employment growth, as a source of competition for large enterprises, for improving skills, flexibility and innovation, promoting regional trade, investment and technology transfer, and for the attainment of social objectives such as poverty reduction and regional development.

Eleventh, the differences in economic performance among countries within East Asia itself would suggest that it would be a mistake to think that they all adopted a single, uniform model of development. There are nonetheless certain broad policy features shared by the successful East Asian economies that have contributed to their rapid economic growth. Chief among these have been their heavy investment in physical and human capital, structural transformation from primary commodity producers to value-added manufacturing exporters through vertical and horizontal diversification, outward orientation, low price distortions and macroeconomic stability as reflected in low inflation, interest rates, stable exchange rates, etc.

Twelfth, East Asia's experience shows that rapid catching up can be possible in various ways. A market-oriented environment is a key ingredient, but interventionist approaches are also common. Thus, the range of policies compatible with rapid growth appears to be broader than neoclassical economics admits. Hence, the real issue is not whether the policy environment is generally interventionist or laissez-faire but whether policies are properly structured to address the basic requirements of growth and whether they fit the economy's capacities and environment.

Thirteenth, the success of East Asian countries in shifting from producing low primary commodities to more productive manufactured products shows that *latecomers are able to diversify in high growth areas if some of those pre-conditions are fulfilled*. Therefore, the thesis argues that SSA can replicate the East Asian experience even if not completely.

Fourteenth, after a period of falling per capita incomes that started in the 1970s, African economies finally began finally to turn around from about 1995, with initially modest increases in per capita incomes (Bigsten and Durevall, 2008). Since 2001, the African economic turnaround has become real and sustainable with average growth rates of over 6% per annum partly due to the resources price boom but also due to improved economic policies. The progress has been largely due to improved policy performance, particularly the adoption of less-distorted macroeconomic frameworks, increased reliance on the private sector as a driving force for economic growth, and the improvement in governance in many countries. Although the political news is largely mixed, the emergence of more participatory government regimes has improved confidence and modestly increased investment in more sub regions

of the continent (UNECA, 1999). However, SSA is still one of the least developed sub region with massive poverty and underdevelopment. Studies have shown that to reduce poverty in Africa by half between 1999 and 2015, balanced policies to enhance economic growth and reduce inequality and an average annual rate of growth of at least 7 % are required (UNECA, 1999).

Fifteenth, though there has been an important progress in economic performances and in achieving the millennium development goals in many part of SSA, overall SSA is still on a knife's edge and the challenges remain daunting. Hence better institutions, good governance, appropriate macroeconomic and sectoral policies, investment on education, physical infrastructure, and political stability are pre-requisites for any economic strategy including export diversification to be effectively implemented in SSA. For that matter, export diversification is not an end in itself, rather it is a means to achieving economic transformation.

Sixteenth, it has also been suggested that export diversification initiatives in SSA need to be undertaken within a broad policy approach, whereby national governments should design and support a coherent macroeconomic policy framework consistent with export promotion strategies. While export diversification programs should be implemented primarily by the private sector, the role of the government in this context should be to prevent distortions and create an environment which promotes diversification. In this regard, government activities should be based on sound macroeconomic policies, establishing an open economy, providing the basic social, legal and economic infrastructure, creating a suitable climate for private enterprise, and ensuring a high level and appropriate composition of human capital formation.

Seventeenth, the level of Africa's industrialization remains low, as illustrated by three key facts: first, there are only a handful of countries where manufacturing as a share of GDP exceeds 25 per cent, the benchmark for considering a country as having achieved the threshold of industrial take-off; second, the export composition of African countries continues to be dominated by primary rather than by processed or semi-finished products; and third, the ratio of public expenditure and private investment in scientific research and development remains minuscule as a percentage of GDP in all African countries (UNECA, 1999). Thus, diversification based on industrialization is the key to increasing Africa's participation in world commerce and finance, and crucial to the structural transformation of Africa's economy, and it provides the platform for enhancing Africa's competitiveness in an increasingly globalized economy.

Eighteenth, there is no doubt that Africa's future growth performance is highly dependent on mobilization of internal resources, attracting foreign investment, human capital formation, infrastructural development, diversification of its economies and exports mainly towards to more productive and dynamic value-added sectors, more access to the markets of the industrialized and industrializing countries, technological improvements, strengthening domestic markets, and strengthening regional cooperation.

Finally, it should be recognized that Africa's problems are deep-rooted, complex and many. They are the cumulative effects of a combination of economic, political, social, institutional, and structural factors. Thus, export diversification should not be considered either as a panacea or an end by itself, but as one of the means within a comprehensive development strategy through which African countries can achieve economic transformation and sustainable economic growth.

Having said these, it is worthwhile to point out some of the limitations of this study, as is always the case with any research, and point to avenues for future research. First, some East Asian economies such as Taiwan, China, Vietnam, Cambodia, Laos and Myanmar are not included in the study, mainly because of lack of consistent and complete data for the years that the study covers. Second, most of the previous empirical studies have treated export diversification in aggregate ways without looking at its vertical and horizontal dimensions, and as a result there have been few theoretical and empirical studies dealing separately with vertical and horizontal export diversification and examining their determinants and impact on economic growth.

Yet despite its limitations, this study has attempted an in-depth and comprehensive empirical study and has made progress in identifying the key determinants of vertical and horizontal export diversification and thereby their impact on economic growth. The study has also provided some policy considerations/suggestions, which may be considered plausible and reasonable for Sub-Saharan Africa in order to draw lessons from East Asia which may fit its unique conditions. As a whole, the findings have wide implications especially for Sub-Saharan Africa countries for which export diversification is a necessity, not an option, so as to achieve structural transformation in their economies.

Bibliography

- Abeyasinghe, Tilak and Yeok, Tan Lin. 1998. "Exchange Rate Appreciation and Export Competitiveness: The Case of Singapore." *Applied Economics*, vol. 30, no. 1: 51-55.
- Abramovitz, Moses. 1986. "Catching-up, Forging Ahead and Falling Behind." *Journal of Economic History*, vol. 46, no. 2: 385-406.
- Abuka, C. 2005. "Infrastructure, Regional Integration and Growth in Africa." In *Africa in the World Economy: The National, Regional and International Challenges*, eds. J. Teunissen and Akkerman. The Hague: FONDAD.
- Acemoglu, Daron and Fabrizio, Zilibotti. 1997. "Was Prometheus Unbound by Chance? Risk, Diversification and Growth." *Journal of Political Economy*, vol. 105, no. 4: 709-51.
- Achen, H. Christopher. 2005. "Two -step Hierarchical Estimation: Beyond Regression Analysis." *Political Analysis*, Volume 13, no. 4: (447-456).
- Adelman, I. 2001. "Fallacies in Development Theory and Their Implications for Policy." In *Frontiers of Development Economics: The Future in Perspective*, eds. G.M. Meier and J.E. Stiglitz. New York: Oxford University Press.
- Adjibolosoo, S. 1995a. *The Human Factor in Developing Africa*. Westport, Conn: Praeger.
- Agosin, Manuel. 2007. "Export Diversification and Growth in Emerging Economies." *Working Paper*, no. 233. Santiago: Departamento de Economía, Universidad de Chile.
- Agosin, Manuel and Claudio, Bravo-Ortega. 2007. "The Emergence of New Successful Export Activities in Chile." *Working Paper*, no. 552. Washington Dc: Latin American Research Network, Inter- American Development Bank.
- Ake, Claude. 1996. *Democracy and Development in Africa*. Washington, Dc: The Brookings Institution.
- Alexander, Chris and Warwick, Ken. 2007. "Governments, Exports and Growth: Responding to the Challenges and Opportunities of Globalization." *The World Economy*, vol. 30, no. 1: 177-194.
- Alfaro, L., Chandra, A., Kalemli-Ozcan, S. and Sayek, S. 2004. "FDI and Economic Growth: The Role of Local Financial Markets." *Journal of International Economics*, vol. 64, no. 1: 89-112.
- Ali, A. A. 1998. Structural Adjustment and Poverty in Sub-Saharan Africa: 1985-1995. In *African Perspectives on Structural Adjustment*, eds. Thandika Mkandawire and Charles C. Suludo. Ottawa: International Development Centre.
- Ali, R., Alwang, J., and Siegel, P. 1991. "Is Export Diversification the Best Way to Achieve Export Growth and Stability? A look at three African Countries." *Policy Research Working Papers Series*, no 729. Washington Dc: The World Bank.
- Al-Marhubi, Fahim. 2000. "Export Diversification and Growth: An Empirical Investigation." *Applied Economics Letters*, no. 7: 559-62.

- Amin, Samir. 1974. *Accumulation on a World Scale: A Critique of the Theory of Underdevelopment*. New York: Monthly Review Press.
- Amsden, Alice H. 1994. "Why is not the whole world experimenting with the East Asian model to develop? : Review of the East Asian Miracle." *World Development*, vol. 22, no. 4: 627-33.
- _____. 1989. *Asia's Next Giant: South Korea and Late Industrialization*. New York: Oxford University Press.
- Amurgo-Pacheco, Alberto and Pierola, Martha. 2008. "Patterns of Export Diversification in Developing Countries: Intensive and Extensive margins." *Policy Research Working Paper*, no. 4473. Washington, Dc: International Trade department, World Bank.
- Andersen, Palle, and Gruen, David. 1995. "Macroeconomic Policies and Growth." In *Productivity and Growth*, eds. Palle Andersen, Jacqueline Dwyer, and David Gruen. Sydney: Reserve Bank of Australia: 279-319.
- Appelbaum, R.P., and Henderson, J. 1992. *States and Development in the Asian Pacific Rim*. Newbury Park, CA: Sage.
- Asian Development Bank. 2001. *Moving the Poverty Agenda Forward in Asia and the Pacific: The Long-term Strategic Framework of the Asian Development Bank (2001-2015)*. Manila, the Philippines: Asian Development Bank
- Athukorala, Premachandra. 1991. "An Analysis of Demand and Supply Factors in Agricultural Exports from Developing Asian Countries." *Weltwirtschaftliches Archiv*, vol. 127, no. 4: 746-91.
- Balassa Bela. 1980. "The Process of Industrial Development and Alternative Development Strategies." *World Bank Staff Working Paper*, no. 438. Washington, DC: The World Bank.
- _____. 1989. *Comparative Advantage, Trade Policy, and Economic Development*. New York: New York University Press.
- Balasubramanyam, V. N., Mohammed, S. and David Sapsford. 1996. "FDI and Growth in EP and IS Countries." *Economic Journal*, vol. 106, no. 434: 92-105.
- Baltagi, Badi. 2005. *Econometric Analysis of Panel Data*. Chichester: John Wiley & Sons Ltd.
- Banga, Rashmi. 2006. "The Export-diversifying Impact of Japanese and US Foreign Direct Investments in the Indian Manufacturing Sector." *Journal of International Business Studies*, vol. 37, Issue 4: 558-568.
- Barka, B.L. 2000. *Keynote Address at Regional Conference on Brain Drain and Capacity Building in Africa*. Addis Ababa, Ethiopia, 22-24 February 2000.
- Barro, Robert. 1997. *Determinants of Economic Growth: A Cross-Country Empirical Study*. Cambridge: MIT Press.
- Barro, Robert and Xavier Sala-i-Martin. 1999. *Economic Growth*. Cambridge, Massachusetts: MIT Press.
- _____. 2004. *Economic Growth*, second edition. Cambridge, Massachusetts: The MIT Press.

- Barro, Robert and Lee, Jong-Wha. 2001. "International Data on Educational Attainment: Updates and Implications." *Oxford Economic Papers*, vol. 53, no. 3: 541-563.
- Baum, Matthew and Lake, David. 2003. "The Political Economy of Growth: Democracy and Human Capital." *American Journal of Political Science*, vol. 47, no. 2: 333-347.
- Baumol, W., Nelson, R. and Wolf, E.1994. *Convergence of Productivity: Cross National Studies and Historical Evidence*. New York: Oxford University Press.
- Bawumia, M. 1998. "The Human factor in Japan's Economic Development." In *International Perspectives on the Human Factor in Economic Development*, ed. Senyo B-S. K. Adjibolosoo. Westport: Praeger Publishers: 29-40.
- Bebczuk, Ricardo and Berrettoni, Daniel. 2006. "Explaining Export Diversification: An Empirical Analysis." *CAF Research Paper*, no. 65, Universidad Nacional de La Plata, Argentina.
- Becker, G.S., E.L. Glaeser, and K. M. Murphy. 1999. "Population and Economic Growth". *American Economic Review*, vol. 89, no. 2: 145-149.
- Bee-Yan Aw and Geeta Batra.1998. *Firm Size and the Pattern of Diversification*. Washington, Dc: The World Bank.
- Ben Hammouda, H., Karingi, S., Njuguna, A., and Jallab, M. 2006. "Diversification: Towards a New Paradigm for Africa's Development." *Work in Progress*, No. 35. Addis Ababa: African Trade Policy Centre, Economic Commission for Africa.
- Bernanke, Ben , Laubach, Thomas, Mishkin, Frederic and Posen, Adam . 1999. *Inflation Targeting: Lessons from the international Experience*. Princeton, New Jersey: Princeton University Press.
- Berthelemy, J.C and Chauvin, S. 2000. "Structural Changes in Asia and Growth Prospects after the Crisis." *CEPII Document de travail* , no. 9: 1-38.
- Bhattacharya, Amar and Pangetsu, Mari.1997. "Indonesia: Development Transformation and the Role of Public Policy." In *Lessons from East Asia*, eds. Leipziger, D. and Thomas, V. Ann Arbor: The University of Michigan Press: 387-442.
- Binswanger-Mkhize, Hans and McCalla, Alex. 2008. "Context and Prospects for Agriculture and Rural Development in Africa." Presentation Given at IFPRI Agricultural Policy Seminar. International Food Policy Research Institute (IFPRI), Washington DC.
- Bleaney, Michael and Greenaway, David. 2001. "The Impact of Terms of Trade and Real Exchange Volatility on Investment and Growth in Sub-Saharan Africa." *Journal of Development Economics*, no. 65: 491-500.
- Blomstrom, Magnus and Kokko, Ari. 2003. "Industrial Competitiveness in Sweden and Finland: From Raw Materials to High-tech Industries." Sweden: Stockholm School of Economics.
- Blomstrom, M., Lipsey,R., and Zejan, M. 1993. Is Fixed Investment the Key to Economic Growth? *CEPR Discussion Papers*, no. 870.

- Bloom, D.E., and J.G. Williamson. 1998. Demographic Transitions and Economic Miracles in Emerging Asia. *The World Bank Economic Review*, vol. 12, no. 3: 419-455.
- Bonaglia, Federico and Fukasaku, Kiichiro. 2003. "Export Diversification in Low-Income Countries: An International Challenge after Doha." Working Paper no.209. Paris: OECD.
- Borensztein, E., De Gregorio, J., and Lee, J. 1998. "How Does Foreign Direct Investment Affect Economic Growth?" *Journal of International Economics*, vol. 45: 115-35.
- Bornschieer, V. and Chase – Dunn, C. (1985) *Transnational Corporations and Underdevelopment*. New York: Praeger.
- Bosker, Maarten and Garretsen, Harry. 2008. "Economic Geography and Economic Development in Sub-Saharan Africa." CESifo Working Paper Series no. 2490. The Netherlands: Centre for Economic Studies and Institute for Economic Research.
- Brainard, William C., and Richard N. Cooper. 1968. "Uncertainty and Diversification of International Trade," *Food Research Institute Studies in Agricultural Economics, Trade, and Development*, vol. 8: 257-285.
- Breisinger, Clemens and Diao, Xinshen. 2008. *Economic Transformation in Theory and Practice- What are the Messages for Africa?* Washington, Dc: IFPRI Discussion Paper 00797.
- Brohman, John. 1997. *Popular Development: Rethinking the Theory and Practice of Development*. Oxford: Blackwell Publishers..
- Bruno, Michael, and Easterly, William. 1998. "Inflation Crises and Long-Run Growth." *Journal of Monetary Economics*, vol. 41, no. 1:3-26.
- Burnside, C. and D. Dollar. 2000. "Aid, Policies, and Growth." *American Economic Review*, vol. 90, no. 4: 847-868.
- Canning, David and Bennathan, Esra. 2000. "The Social Rate of Return to Infrastructure Investments." *Policy Research Working paper*, No. 2390. Washington Dc: The World Bank.
- Carrere, Celine., Cadot, Olivier., and Strauss-Khan, Vanessa. 2007. "Export Diversification: What's Behind the Hump?" *CEPR Discussion Paper* no. DP 6590.
- Chan, S., and Clark, C. 1995a. "Do MNCs Matter for National Developmental Outcomes? Contrasting East Asia and Latin America." In *Foreign Direct Investment in a changing Global Political Economy*, ed. S. Chan. London: Macmillan.
- Chen, Edward, K.Y., and K.w. li. 1988. " Industry." In *the Economic System of Hong Kong*, ed. Ho and Chau. University of Hong Kong: Asian Research Service: 113-134.
- Chen, Zongde. 2003. *Can Africa learn from East Asia?* Bureau of International Cooperation, Hong Kong, Macao and Taiwan Academic Affairs Office, Chinese Academy of Social Sciences.
- Chenery, Hollis. 1980. "Interactions between Industrialization and Exports." *American Economic Review*, vol.70, no. 2: 281-287.
- _____. 1979. *Structural Change and Development Policy*. New York: Oxford University Press.

- _____.1960. "Patterns of Industrial Growth." *The American Economic Review*, vol. 50, no. 4: 624-54.
- Chenery, Hollis and Taylor, Lance. 1968. "Development patterns among countries and over time." *Review of Economics and Statistics*, vol.50, no. 4: 391-416.
- Chenery, H., Robinson,S. and Syrquin, M. 1985. *Industrialization and Growth*. Washington D.C.: The World Bank.
- Clements-Hunt, Paul. 2007. "Innovative Financing for Sustainable Small and Medium Enterprises in Africa." *International Workshop Report*, Geneva, Switzerland.
- Collier, Paul. 2002. Primary Commodity Dependence and Africa's Future. *WB Research Paper*, URL <http://r0.unctad.org/p166/reduit2004/module1/collier.pdf>. 03 June 2008.
- Collier, Paul and Gunning, J. 1997. *Explaining African Economic Performance*. Oxford: Centre for the Study of African Economies.
- Collier, Paul and Hoeffler, Anke. 2004. "Greed and Grievance in Civil War." *Oxford Economic Papers*, vol. 56, no. 4: 563-595.
- Collier, Paul and Venables, Anthony. 2008. "Rethinking Trade Preferences: How Africa Can Diversify its Exports?" *The World Economy*, vol. 30, no. 8: 1326-1345.
- Commission for Africa. 2005. *Our Common Interest: An Argument*. London: Penguin Books Ltd.
- Corden, W. 1981. "The Exchange Rate, Monetary Policy and North Sea oil: the Economic Theory of the Squeeze on Tradables." *Oxford Economic papers*, vol. 33, no. 1, pp. 23-46.
- Corden, W. and Neary, J. 1982. "Booming Sector and De-industrialisation in a Small Open Economy." *The Economic Journal*, vol. 92, no. 368, pp. 825-848.
- Cornia, G.A., R. jolly, and F. Stewart. 1987. *Adjustment with a Human Face*. Oxford: Clarendon Press.
- Cramer, Christopher. 1999. "Can Africa Industrialize by Processing Primary Commodities? The Case of Mozambican Cashew Nuts." *World Development*, vol. 27, no. 7: 1247-1266.
- Dahlman, J. Carl and Sananikone, O. 1997. "Taiwan, China: Policies and Institutions for Rapid Growth." In *Lessons from East Asia*, eds. Leipziger, D. and Thomas, V. Ann Arbor, USA: The University of Michigan Press: 83-154.
- Davidson, Russel and Mackinnon, James. 1993. *Estimation and Inference in Econometrics*. New York: Oxford University Press.
- Dawe, David. 1996. "A New Look at the Effects of Export Instability on Investment and Growth." *World Development*, vol. 24, no. 12: 1905-14.

- De Ferranti, D., Perry, G.E., Lederman, D., and Maloney, W. 2002. *From Natural Resources to the Knowledge Economy*. Washington, Dc: The World Bank.
- Deininger, Klaus and Squire, Lyn. 1996. "A new Data set Measuring Income Inequality." *World Bank Economic Review*, vol. 10: 565-91.
- Dennis, A. and Shepherd, B. 2007. "Trade Costs, Barriers to Entry, and Export Diversification in Developing Countries." World Bank Policy Research working Paper, no. 4368:1-40.
- De Pineres, S.A.G. and Ferrantino, M. 1997. "Export Diversification and Structural Dynamics in the Growth Process: The Case of Chile." *Journal of Development Economics*, vol. 52:35-91.
- _____.1997. "Export Diversification Trends: Some Comparisons for Latin America." *International Executive*, vol. 39, no. 4: 465-477.
- _____. 2000. *Export Dynamics and Economic Growth in Latin America*. Burlington, Vermont: Ashgate Publishing Ltd.
- Diao, X., Rattso, J., Stokke, H. 2006. "Learning by Exporting and Structural Change: A Ramsey Growth Model of Thailand." *Journal of Policy Modeling*, vol. 28, no. 3: 293-306.
- Dixon, C. 1999. *The Thai Economy. Uneven development and internationalization*. New York: Rutledge.
- Dobre, Claudia. 2008. "The Relation between Openness to trade and Economic Growth." Central and Eastern European Online Library: www.ceeol.com.
- Dollar D. and Kraay A.2002. "Growth is good for the poor." *Journal of Economic Growth*, Springer, vol. 7, no. 3: 195-225.
- Dollar, D., Wolf, E., and Baumol, W.1988. *The Factor Price Equalization Model and Industry Labor Productivity: An Empirical Test across Countries*. Cambridge: MIT Press.
- Dordunoo, C.K. 2001. "Fiscal Policy, Macroeconomic Stability and Medium- Long Term Growth." Paper Presented at the Macroeconomic Stability Growth and Poverty Reduction in Ghana. Noguchi Workshop. May 10-11. Accra, Ghana.
- Dornbusch, R., Fischer, S., and Samuelson, P. 1977. "Comparative Advantage, Trade and Payments in a Ricardian Model with a Continuum of Goods." *American Economic Review*, vol. 67: 823–39.
- Dupasquier, Chantal and Osakwe, Patrick. 2006. "Foreign Direct Investment in Africa: Performance, Challenges, and Responsibilities." *Journal of Asian Economies*, vol. 17, Issue 2: 241-260.
- Easterly, William and Levine, Ross. 2003. "Tropics, Germs, and Crops: How Endowments Influence Economic Development." *Journal of Monetary Economics*, vol. 50, no. 1:3-39.
- Economic Report on Africa. 2007. *Accelerating Africa's Development through Diversification*. Addis Ababa, Ethiopia: United Nations Economic Commission for Africa.
- Economic Report on Africa. 2004. *Unlocking Africa's Potential in Global Economy*. New York: United Nations Economic and Social Council.

- Edwards, C. 1985. *Policies for Industrial Progress in Developing Countries*. New York: Oxford University Press.
- Edwards, Sebastian. 1992. "Trade Orientation, Distortions and Growth in Developing Countries." *Journal of Development Economics*, vol. 39, Issue 1: 31-57.
- Elbadawi, Ibrahim. 1999. "Can Africa Export Manufactures: The Role of Endowment, Exchange Rates, and Transaction Costs." *World Bank policy Research Working Paper*, No. 2120, Washington Dc. World Bank Economic Development Institute.
- _____. 2001. "Social Cohesion, Conflict Management and Economic Growth in Africa." In *Globalization, Democracy, and Development in Africa: Challenges and Prospects*, eds. T. Assefa, S. Rugumanu and A. Ahmed. Oxford: African Books Collectives.
- Evans, P.B. 1995. *Embedded Autonomy: states and Industrial Transformation*. Princeton, New Jersey: Princeton University Press.
- Fagerberg, J.1994. "Technology and International Differences in Growth Rates." *Journal of Economic Literature*, vol. 32, no.3: 1147-1175.
- Falkus, Malcolm. 1991. "The Economic History of Thailand." *Australian Economic History Review*, vol. 31, no. 1: 53-71.
- Feder, G. 1983. "On Exports and Economic Growth." *Journal of Development Economics*, vol. 12: 59-73.
- Feenstra, R., Madani, D., Yang, T., and Liang, C. 1999. "Testing Endogenous Growth in South Korea and Taiwan." *Journal of Development Economics*, vol. 60, no. 2: 317-341.
- Feenstra, Robert and Kee, Hiau Looi . 2004. "Export Variety and Country productivity." *Policy Research Working Paper Series 3412*, the World Bank.
- Fields, K.J. 1995. *Enterprise and the State in Korea and Taiwan*. Ithaca, NY: Cornell University Press.
- Fisher, Allan. 2007. "Production, Primary, Secondary and Tertiary." *Economic Record*, volume 15, Issue 1: 24-38.
- Fischer, Stanley. 1993. "The Role of Macroeconomic Factors in Growth." *Journal of Monetary Economics*, vol. 32, no. 3: 485-512.
- Fogel, R.W. 1994. "Economic Growth, Population Theory, and Physiology: The Bearing of Long-Term Process on the Making of Economic policy." *American Economic Review*, vol. 84, no. 3: 369-395.
- Folster, Stefan and Henrekson, Magnus. 2001. "Growth Effects of Government Expenditure and Taxation in Rich Countries." *European Economic Review*, vol. 45, no. 8: 1501-1520.
- Friedman, D. 1988. *The Misunderstood Miracle: Industrial Development and Political Change in Japan*. Ithaca: Cornell University Press.

- Fry, Maxwell J. 1991. "Domestic Resource Mobilization in Developing Asia: Four Policy Issues." *Asian Development Review*, vol.9:15-39.
- Fumitaka, Furuoka. 2005. "Japan and the 'Flying Geese' Pattern of East Asian Integration", http://www.eastasia.at/vol4_1/article01.htm, downloaded on 2008/07/12.
- Funke, Michael, and Ruhwedel, Ralf. 2001. "Product Variety and Economic Growth: Empirical Evidence for the OECD Countries." *IMF Staff Papers*, vol. 48, no. 2: 225-242.
- Gasiowski, Mark J. 2000. "Democracy and Macroeconomic Performance in Underdeveloped Countries: An Empirical Analysis." *Comparative Political Studies*, vol. 33, no. 3: 319-49.
- George, S. 1988. *A fate worse than debt: the World Financial Crisis and the Poor*. New York: Grove Weidenfeld.
- Gerber, James. 2005. *International Economics* (3rd ed.). Boston, MA: Addison-Wesley.
- Ghosh, Atish and Ostry, Jonathan. 1994. "Export Instability and the External Balance in Developing Countries." *IMF Working Papers No. 94/8*.
- Gourrevitch, Peter A. 1993. "Democracy and Economic Policy: Elective Affinities and Circumstantial Conjunctures." *World Development*, vol. 21, Issue 10: 1271-1280.
- Greenaway, D., Morgan, W. and Wright, P.2002. "Trade Liberalization and Growth in Developing Countries." *Journal of Development Economics*, vol. 67: 229-244.
- Grossman, Gene and Helpman, Elhanan. 1991. *Innovation and Growth in the Global Economy*. Cambridge, MA: MIT Press.
- Gujarati, Damodar. 2003. *Basic Econometrics* (Fourth edition). Singapore: McGraw-Hill Companies, Inc.
- Gylfason, Thorvaldur. 2001. "Natural Resources, Education, and Economic Development." *European Economic Review*, vol. 45, no. 4-6: 847-59.
- _____. 2002. "Institutions, Human Capital, and Diversification of Rentier Economies." University of Iceland: CEPR, and CESifo.
- _____.2004. "Natural Resources and Economic Growth: from Dependence to Diversification", *CEBR Discussion Paper*, No. 4804.
- Guha-Khasnobis, B., Kanbur, R., and Ostrom, E. 2006. "Beyond Formality and Informality". In *Linking the Formal and Informal Economy: Concepts and Policies*, eds. Guha-Khasnobis, B., Kanbur, R., and Ostrom, E. New York: Oxford University Press.
- Gujarati, D. 2003. *Basic Econometrics*. Singapore: McGraw-Hill Companies, Inc.
- Habiyaremye, Alexis and Ziesemer, Thomas. 2006. *Absorptive Capacity and Export Diversification in Sub-Saharan African Countries*. Maastrich: United Nations University.

- Haddad, M., de Melo, J. and Horton, B. 1996. "Morocco, 1984-89: Trade Liberalization, Exports, and Industrial Performance." In *Industrial Evolution in Developing Countries: Micro Patterns of Turnover, Productivity, and Market Structure*, eds. Mark J. Roberts and James R. Tybout. New York: Oxford University Press: 285-313.
- Haggard, S. 1990. *Pathways from the Periphery: The Politics of Growth in the Newly Industrializing Countries*, Ithaca, New York: Cornell University Press.
- Hall, Chris. 2002. "Profile of SMEs and SME Issues in East Asia." In *The Role of SMEs in National Economies in East Asia*, eds. C. Harvie and B.C.Lee. Cheltenham: Edward Elgar: 21-49.
- Hallberg, Kristin. 2001. "A Market-Oriented Strategy for Small and Medium-Scale Enterprises." *IFC Discussion Paper* no. 40. Washington D.C: The World Bank.
- Hart, J.A. 1992. *Rival Capitalists: International Competitiveness in the United States, Japan, and Western Europe*. Ithaca, NY: Cornell University Press.
- Harvie, Charles and Lee, Boon-Chye . 2002. "East Asian SMEs: Contemporary Issues and Developments-An Overview." In *The Role of SMEs in National Economies in East Asia*, eds. C. Harvie and B.C.Lee. Cheltenham: Edward Elgar: 1-20.
- Hausmann, Ricardo and Rodrik, Dani. 2003. "Economic Development as Self-Discovery." *Journal of Development Economics*, vol. 72, no. 2: 603-633.
- Hausmann, Ricardo and Klinger, Bailey. 2006. "Structural Transformation and Patterns of Comparative Advantage in the Product Space." Working Paper No. 128. Harvard University: Center for International Development, Harvard University.
- _____. 2007. "The Structure of the Product Space and the Evolution of Comparative Advantage." *CID Working Paper*, No. 146. Harvard University: Center of International Development.
- _____. 2006. South Africa's Export Predicament. *CID Working Paper*, no. 129, Harvard University: Center of International Development.
- Hausmann, R., Hwang, J., and Rodrik, D. 2006. "What You Export Matters." *Working Paper*. Center of International Development, Harvard University.
- Hayami, Yujiro and Ruttan, Vernon. 1985. *Agricultural Development: An international Perspective*. Baltimore, MD: Johns Hopkins University Press.
- Helleiner, Eric. 1994. *States and the Reemergence of Global Finance*. Ithaca: Cornell University Press.
- Helliwell, John F. 1994. "Empirical Linkages between Democracy and Economic Growth." *British Journal of Political science*, vol. 24, no. 2: 225-48.
- Herbest, Jeffrey and Mills, Greg. 2009. "Commodities, Africa and China." *RSIS COMMENTARIES*, NTU, Singapore: S. Rajaratnam School of International Studies.
- Herzer, Dierk and Nowak-Lehmann, Felicitas. 2006. "What Does Export Diversification Do for Growth? An Econometric Analysis." *Journal of Applied Economics*, vol. 38, no. 15: 1825-1838.

- Herzer, Dierk., Nowak-Lehmann, Felicitas and Siliverstovs, Borris. 2004. "Export-led Growth in Chile: Assessing the Role of Export Composition in Productivity Growth." *Journals of Applied Economics Letters*, vol. 13, no. 5: 319-324.
- Hess, Gregory, and Morris, Charles S. 1996. "The Long-Run Costs of Moderate Inflation." *Economic Review*, Federal Reserve Bank of Kansas City, Second Quarter, vol. 81: 71-88.
- Hesse, Heiko. 2008. "Export Diversification and Economic Growth." Working Paper no. 21. Washington DC: The World Bank.
- Hill, Hal. 1995. "Small-medium Enterprise and Rapid Industrialization: The Asian Experience." *Journal of Asian Business*, vol. 11, no. 2:1-31.
- Hirschman, Albert. 1958. *The Strategy of Economic Development*. New Haven, CT: Yale University Press.
- Hurwicz, L. 1995. "Social Absorption Capability and Economic Development." In *Social Capability and Long-term Economic Growth*, eds. Hoo, B.H. London: Macmillan.
- Husted, Steven and Melvin, Michael. 2007. *International Economics*. New Jersey: Pearson Education, Inc.
- Imbs, Jean and Wacziarg, Romain. 2003. "Stages of Diversification." *American Economic Review*, vol. 93, no. 1: 63-86.
- Intal, ponciano S. 2002. "Why and What Financing SME development?" *Mimeographed*. Manila: De La sale University.
- Iscan, T. 1998. "Trade Liberalization and Productivity Gains in Developing countries: A Survey of the Literature." *The World Bank Research Observers*, vol. 5, no. 1: 1-24.
- Ito, Takatoshi. 2001. *The Japanese Economy*. Massachusetts : MIT Press.
- Janneh, Abdoulie. 2009. "Afrol News", 5th World Business Congress and the 1st IGAD Investment Forum in Addis Ababa, March 3rd 2009.
- Jimenez, Emmanuel. 1995. "Human and Physical Infrastructure: Public Investment and Pricing Policies in Developing Countries." In *Handbook of Development Economics*, vol. 3B, eds. Jere R. Behrman and T.-N. Srinivasan. Amsterdam, New York, Oxford: Elsevier Science: 2773-2843.
- Johnston, B.F., and J.W. Mellor. 1961."The Role of Agriculture in Economic Development." *American Economic Review*, vol. 51, no. 4: 566-593.
- Jones, C.I. 1998. *Introduction to Economic Growth (2nd edition)*. W.W. Norton, New York, London: W.W. Norton & Company Ltd.
- Jorgenson, Dale. 1961. The Development of a Dual Economy. *Economic Journal*, vol. 71, no. 282: 309-334.
- Judson, Ruth, and Orphanides, Athanasios. 1996. "Inflation, Volatility, and Growth." *Board of Governors of the Federal Reserve System Finance and Economics Discussion series*, no. 96/16.

- Kao, Raymond, and Tan, Wee Liang. 2001. *Entrepreneurship and Enterprise Development in Asia*. Singapore; New York: Prentice Hall.
- Kawai, Hiroki, and Urata, Shujiro. "Entry of Small and Medium Enterprises and Economic Dynamism in Japan." In *Small Firm Dynamism in East Asia*, eds. Iqbal, F. and Urata, S. The Netherlands: Kluwer Academic Publishers.
- Kelly, Dominic. 2002. *Japan and the Reconstruction of East Asia*. New York: PALGRAVE.
- Kharas, Homi. 1997. "The Philippines: Three Decades of Lost Opportunities". In *Lessons from East Asia*, eds. Leipziger, D. and Thomas, V. Ann Arbor: The University of Michigan Press: 443-479.
- Kidd, J.B. and Richter, F.-J., eds. 2005. *Infrastructure and Productivity in Asia: Political, Financial, Physical and Intellectual Underpinnings*. New York: Palgrave Macmillan.
- Killik, Tony. 1993. *The Adaptive Economy*, EDI Development Studies, Washington, DC: The World Bank.
- Klinger, Bailey, and Lederman, Daniel. 2006. "Diversification, Innovation, and Imitation inside the Global Technological Frontier." *Research Policy Working Paper 3872*, Washington, DC: The World Bank.
- Kourtellos, A., Tan, C. and Zhang, X. 2007. "Is the Relationship between Aid and Economic Growth Nonlinear?" *IFPRI Discussion Paper*, no. 00684. Washington, DC: IFPRI.
- Krueger, Anne O. 1988. "Policy lessons from Development Experience since the second World War." In *Handbook of Development Economics*, Volume 1, eds. H. Chenery and T. Srinivasan. New York: Elsevier.
- Krueger, A. O., Schiff, M.W., and Valdes, A. 1991. *The Political Economy of Agricultural Pricing Policies*. Washington DC: The World Bank.
- Kumar, Nagesh and Pradhan, Prakash. 2002. "FDI, Externalities, and Economic Growth in Developing Countries: Some Empirical Explorations and Implications for WTO Negotiations on Investment". *RIS Discussion Paper No. 27/2002*, New Delhi, India.
- Kuo, C.T. 1995. *Global Competitiveness and Industrial Growth in Taiwan and the Philippines*. Pittsburgh: University of Pittsburgh Press.
- Kuznets, Simon. 1966. *Modern Economic Growth: Rate Structure and Spread*. New Haven: Yale University Press.
- _____. 1971. "Modern Economic Growth: Findings and Reflections. Nobel Memorial Lecture." *American Economic Review*, vol. 63, no. 3: 247-258.
- _____. 1961. *Capital in the American Economy*. National Bureau of Economic Research, New York.
- _____. 1955. "Economic Growth and Income Inequality." *American Economic Review*, vol. 45, no. 1: 1-28.

- Kwan, C.H. 1998. *The Yen, the Yuan, and the Asian Currency Crisis: Changing Fortune between Japan and China*. Occasional Papers, Stanford University: Asia/Pacific Research Center, Institute for International Studies.
- Kwon, Jene. 1994. 'The East Asian Challenge to Neo-classical Orthodoxy'. *World Development*, vol.22, no. 4: 635-44.
- K.Y. Amoako. 2000. "Economic Development and Reform Issues in Africa: Lessons for Ghana." *ECA Policy Lecture 1* (September 21). Legon: University of Ghana.
- Labys, Walter and Montague J. Lord. 1990. "Portfolio Optimization and the Design of Latin American Export Diversification Policies." *Journal of Development Studies*, vol. 26, no. 2: 260-77.
- Lall, Sanjaya. 1992. "Technological Capabilities and Industrialization." *World Development Report*, vol.20, no. 2: 165-186.
- Lam, Danny.1992. "Explaining Economic Development: A Case Study of State Policies towards the Computer and Electronics Industry in Taiwan (1960-80)", PhD dissertation, Carleton University, Ottawa.
- Large, Daniel. 2008. "Beyond Dragon in the Bush: The Study of China-Africa Relations." *African Affairs*, vol. 107, no. 426: 45-61.
- Lawrence, P. and Thirtle, C., eds. 2001. *Africa and Asia in Comparative Economic Perspective*. New York: Palgrave.
- Leamer, Edward. 1984. *Sources of International Comparative Advantage*. Cambridge, MA: MIT Press.
- Lecraw, Donald. 1984. "Diversification Strategy and Performance." *The Journal of Industrial Economics*, vol. 33, no. 2: 179-198.
- Lederman, Daniel, and Maloney, William. 2007. "Trade Structure and Growth." In *Natural Resources: Neither Curse nor Destiny*, D. Lederman and W.F. Maloney, eds. Palo Alto: Stanford University Press.
- Leelasorn, Anuman. 2006. "ODA from Japan and other Donors in Thailand." In *Japan's Foreign Aid: Old Continuities and New Directions*, eds. Arase, David. New York: Routledge.
- Leipziger, Danny, and Thomas, Vinod.1997. "An Overview of East Asian Experience." In *Lessons from East Asia*, eds. Leipziger, D. and Thomas, V. Ann Arbor, USA: The University of Michigan Press, 1997: 1-32.
- Levchenko, A. 2004. "Institutional Quality and International Trade." *IMF Working Paper* WP/04/231, Washington, DC: International Monetary Fund.
- Levine, Ross, and Renelt, David. 1992. "A Sensitivity Analysis of Cross-Country Growth Regressions." *American Economic Review*, vol. 82, no. 4: 942-963.

- Lewis, W. Arthur. 1954. "Economic Development with Unlimited Supplies of Labor." *The Manchester School*, vol. 22, no. 2: 139-191.
- _____. 1955. *The Theory of Economic Growth*, London: Allen and Unwin
- _____. 1979. "The Dual Economy Revisited." *The Manchester School*, vol. 47, no. 3: 211-229.
- Livingston, Ian. 1981. *Development Economics and Policy: Readings*. London: George Allen and Unwin Ltd.
- Lockwood, W.W. 1965. *The Economic Development of Japan: growth and structural Change, 1868-1939*. Princeton: Princeton University Press.
- Lopez-Casasnovas, Guillem. 2005. *Health and Economic Growth: Findings and Policy Implications*. Cambridge, Massachusetts: The MIT Press.
- Love, James. 1983. "Concentration, Diversification and Earnings Instability: Some Evidence on Developing Countries' Exports of Manufactures and Primary Products." *World Development*, vol.11, no.9: 787-793.
- Lucas, Robert. 1990. "Why Doesn't Capital Flow from Rich to Poor Countries?" *The American Economic Review*, vol.80, no. 2: 92-96.
- _____. 1988. "On the Mechanics of Economic Development." *Journal of Monetary Economics*, vol. 22, no.1: 3-42.
- Maizels, Alfred. 1987. "Commodities in Crisis: An Overview of the Main Issues." *World Development*, vol. 15, no. 5: 537-49.
- Malthus, T. Robert. 1798. "An Essay on the Principle of Population." *EconLib.org* webpage: <http://www.econlib.org/LIBRARY/Malthus/malPop.html>.
- Mankiw, N.G. 2003. *Macroeconomics*. New York: Worth Publishers.
- Mankiw, N.G., Romer, David, and Weil, David. N. 1992. "A Contribution to the Empirics of Economic Growth." *Quarterly Journal of Economics*, vol. 107, no. 2: 407-437.
- Markide, Constantinos. C.1995. *Diversification, Refocusing, and Economic Performance*. Cambridge, Massachusetts: the MIT Press.
- Maswana, J. 2006. *Economic Development Patterns and Outcomes in Africa and Asia. Congo Economic Review*. Working Paper WP04/06-2006.
- Matsuyama, Kiminori. 1992. "Agricultural Productivity, Comparative Advantage, and Economic Growth." *Journal of Economic Theory*, vol. 58, no. 2: 317-34.
- Masuyama, Seiichi and Vandenbrink, Donna. 2001. *Industrial Restructuring in East Asian Economies for the Twenty-first Centuries*. Tokyo: Tokyo Club foundation for Global Studies.
- Matthee and Naudé. 2007. *Export Diversity and Regional Growth: Empirical Evidence from South Africa*, Research Paper No. 2007/11, United Nations University: World Institute for Development Economics Research.

- Matthews, R.C.O. 1986. "The Economics of Institutions and the Sources of Growth." *The Economic Journal*, vol. 96, no. 384: 903-918.
- Meeus, William and David Sander. 2003. *Pull Factors in International Migration of Health Professionals*, available at < <http://www.hst.org.za/conf03/presentations/L0080.ppt>.>
- Meier, Deborah. 1999. *The Power of their Ideas: Lessons for America from a Small School in Harlem*. Boston: Beacon Press.
- Meier, Gerald, and Rauch, James. 2000. *Leading Issues in Economic Development*. New York and Oxford: Oxford University Press.
- Ministry of International Trade and Industry of Japan .1994. *White Papers*, pp. 282-84.
- Mkandawire, Thandika and Soludo, Charles. 1999. *Our Continent, Our Future: African Perspectives on Structural Adjustment*. Dakar, Senegal: Africa World Press, Inc.
- Moon, Chung-in and Prasad, Rashemi. 1994. "Networks, Politics, and Institutions." In *Beyond the Developmental State: East Asia's Political Economies Reconsidered*, London: Macmillan Press Ltd.
- Munemo, J., Bandyopadhyay, S., and Basistha, A. 2007. "Foreign Aid and Export Performance: A Panel Data Analysis of Developing Countries." *Working Paper 2007-023A*, St. Louis: Federal Reserve Bank of St. Louis.
- Muscat, R.J. 1994. *The Fifth Tiger - A Study of Thai Development Policy*. New York: United Nations University Press.
- Nath, Hiranya. 2009. "Trade, Foreign Direct Investment, and Growth: Evidence from Transition Economies." *Comparative Economic Studies*, vol. 51, no. 1: 20-50.
- National Development Planning Commission (NDPC) of Ghana. 2005. *Growth and Poverty Reduction Strategy 2006–2009*. Accra, Ghana: NDPC.
- Nelson, R. and Phelps, E. 1966. "Investment in Humans, Technological Diffusion, and Economic Growth." *American Economic Review Proceedings*, vol. 56, no. 1-2: 69-75.
- Ng, Francis and Yeats, Alexander. 2002. "What Can Africa Expects from its Traditional Exports?" *Africa Region Working Paper Series*: No. 26. Washington, DC: The World Bank.
- Nigeria National Planning Commission. 2007. *National Economic Empowerment and Development Strategy*. Lagos, Nigeria: Nigerian National Planning Commission.
- Nishimizu, M. and Robinson, S. 1994. "Trade Policies and Productivity Change in Semi-Industrialized Countries." *Journal of Development Economics*, vol. 16, no. 1-2: 177-206.
- North, D. 1990. *Institutions, Institutional Changes, and Economic Performance*. Cambridge: Cambridge University Press.
- Nugent, Jeffrey and Yhee, Seung-Jae. 2002. "Small and Medium Enterprises in Korea: Achievements, Constraints and Policy Issues." *Small Business Economics*, vol. 18, issue 1-3: 85-119.

- Obstfeld, Maurice. 1994. "Evaluating Risky Consumption Paths: The Role of Inter-temporal Substitutability." *European Economic Review*, vol. 38, no. 7: 1471-1486.
- OECD. 1992. *The OECD Declaration and Decisions on International Investment and Multinational Enterprises: 1991 Review*. Paris: OECD.
- _____.1996. *The knowledge Based Economy*. Paris: OECD.
- _____.2005. "Financing SMEs in Africa." Policy Insights No.7, in www.oecd.org/dev/aeo (03 November 2008).
- Okafor, Emeka. 2009. "Asia's Development Miracle and Africa's Development Tragedy of the late 20th Century: Key Lessons." *PoliticalArticles.NET*, in <http://www.politicalarticles.net/blog/tag/South-Korea/> downloaded on 2009/01/26
- Okimoto, D.I.1989. *Between MITI and the Market: Japanese Industrial policy for High Technology*, Stanford, CA: Stanford University Press.
- Olofsdotter, Karin. 1998. "Foreign Direct Investment, Country Capabilities and Economic Growth." *Weltwirtschaftliches Archive*, vol. 134, no. 3: 534-547.
- Osakwe, Patrick. 2007. "Foreign Aid, Resources, and Export Diversification in Africa: A New Test of Existing Theories." *African Trade Policy Paper 61*, Economic Commission for Africa, Addis Ababa.
- Ostrom, E. 1990. *Governing the Common: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.
- Owens, Trudy, and Wood, Adrian. 1997. "Export-Oriented Industrialization through Primary Processing?" *World Development*, vol. 25, no. 9: 1435-1470.
- Pack, Howard, and Westphal, Larry E. 1986. "Industrial Strategy and Technological Change: Theory vs. Reality." *Journal of Development Economics*, vol. 22, no. 1: 87-128.
- Parteka, Aleksandra, and Tamberi, Massimi. 2008. "Determinants of Export Diversification: An Empirical Investigation." *Working Papers*, Universita Politecnica Delle Marche, Italy, no. 327:1- 45.
- Petri, peter. 1997. "Common Foundations of East Asian Success" In *Lessons from East Asia*, eds. Leipziger, D. and Thomas, V. Ann Arbor, USA: The University of Michigan Press: 541-567.
- Pieper, U. 2003. "Sectoral Regularities of Productivity Growth in Developing Countries: A Kaldorian Interpretation." *Cambridge Journal of Economics*, vol. 27, no. 6: 831-850.
- Pinaud, Nicolas, and Wegner, Lucia. 2004. "African Economic Performance in 2004: A Promise of Things to Come?" *Policy Insights*, no.6, Paris: OECD.
- Porter, Michael. E. 1990. *The Comparative Advantage of Nations*. New York: Free Press.
- Prebisch, Raul. 1959. "Commercial Policy in the Underdeveloped Countries". *The American Economic Review*, vol. 49, no. 2: 251-273.

- _____.1950. "The economic development of Latin America and its principal problems."
Reprinted in *Economic Bulletin for Latin America*, vol. 7, no. 1 (1962).
- Przeworski, Adam, and Limongi, Fernando, L. 1993. "Political Regimes and Economic Growth."
Journal of Economic Perspectives, vol. 7, no. 30: 51-69.
- Psacharopoulos, George, 1988. "Education and Development: A Review." *World Bank Research Observer*, vol. 3, no. 1: 99-116.
- Ranis, G., and Fei, J.C.1961. "A Theory of Economic Development." *American Economic Review*,
vol. 51: 533–58.
- Ray, Debraj. 1998. *Development Economics*. Princeton, New Jersey: Princeton University Press.
- Razin, A., Sadka, E., Yuen, C. 1999. "Excessive FDI under Asymmetric Information." *NBER Working Paper*, no. 7400. Cambridge, MA: National Bureau of Economic Research.
- Razzaque, M., Osafa-Kwako, P. and Grynberg, R. 2007. "The Problem of Commodity Dependence."
In the *Commodity Prices and Development*, eds. Grynberg, Roman and Newton, Samantha.
Oxford: Oxford University Press.
- Reynolds, Lloyd G. 1988. *Macroeconomics: Analysis and Policy*. Homewood, Illinois: Irwin.
- Rodrik, Dani. 2004. "Industrial Policy for the Twenty-First century". Mimeo,
<http://ksghome.harvard.edu/~drodrik/UNIDOsep.pdf>.
- _____. (ed.) 2003. *In Search of Prosperity: Analytic Narratives on Economic Growth*.
Princeton, NJ: Princeton University Press.
- Rodrik D., Subramanian, A., and Trebbi, F. 2004. "Institutions Rule: The Primacy of Institutions
over Geography and Integration in Economic Development." *Journal of Economic Growth*,
vol. 9, no. 2: 131-165.
- Rodriguez, Edgard, and Berry, Albert. 2002. "SMEs and the New Economy: Philippines
Manufacturing in the 1990s." In *the Role of SMEs in National Economies in East Asia*, eds. C.
Harvie and B.C.Lee. Cheltenham: Edward Elgar: 136-57.
- Rodriguez, Edgard. 2002. "An overview of Donors' Role in SME Development in Southeast Asia
after the Crisis." In *the Role of SMEs in National Economies in East Asia*, eds. C. Harvie and
B.C.Lee. Cheltenham: Edward Elgar: 136-57.
- Romer, Paul M. 1990. "Endogenous Technological Change." *Journal of Political Economy*, vol. 98,
no. 5: 71-102.
- Rosenstein-Rodan P.N. (ed). 1964. *Capital Formation and Economic Development*. Cambridge:
MIT University Press.
- Roskamp, Karl and McMeekin, Gordon. 1968. "Factor Proportions, Human Capital and Foreign Trade:
The Case of West Germany Reconsidered." *Quarterly Journal of Economics*, vol. 82, no. 1: 152-
160.
- Rosovsky, H., ed. 1966. *Industrialization in Two Systems*. New York: John Wiley and Sons.

- Rostow, W. 1960. *The Stages of Economic Growth*, Cambridge, UK: Cambridge University Press.
- Rufin, R. J. 1974. "International Trade under Uncertainty." *Journal of International Economics*, vol. 4, no. 3: 243-259.
- Sachs, J., McArthur, J., Schmidt-Traub, G., Kruk, M., Bahadur, C., Faye, M., and McCord, G. 2004. "Ending Africa's Poverty Traps." *Brookings Papers on Economic Activity*, no. 1: 117-240.
- Sachs, Jeffrey, and Warner, Andrew. 1995. "Natural Resource Abundance and Economic Growth." NBER Working Papers 5398, National Bureau of Economic Research, Inc.
- _____. 1995. "Economic Reform and the Process of Global Integration." *Brookings Papers on Economic Activity*, vol. 26, no. 1: 1-118.
- _____. 2001. "The Curse of Natural Resources." *European Economic Review*, vol. 45, no. 4-6: 827-838.
- Saint-Paul, Gilles. 1992. "Technological Choice, Financial Markets, and Economic Development." *European Economic Review*, vol. 36, no. 4: 763-781.
- Sala-i-Martin, Xavier. 2005. "On the Health-Poverty Trap." In *Health and Economic Growth: Findings and Policy Implications*, ed. Lopez-Casasnovas, Guillem. Cambridge, Massachusetts: The MIT Press.
- Salleh, Ismail and Meyanathan, Saha. 1997. "Malaysia: Growth, Equity, and Structural Transformation." In *Lessons from East Asia*, eds. Leipziger, D. and Thomas, V. Ann Arbor, USA: The University of Michigan Press: 279-343.
- Sanchez-Robles, Blanca and Bengoa-Calvo, Marta. 2003. "Foreign Direct Investment as a Source of Endogenous Growth." University of Cantabria, Economics Working Paper No. 5/03.
- Sandbrook, R. 1986. "The State and Economic Stagnation in Tropical Africa." *World Development*, vol. 14, no. 3, pp. 319-32.
- Sandee, Henry and Wengel, Jan ter. 2004. "SMEs in Southeast Asia since the Asian Financial Crisis." In *Entrepreneurship and SMEs in Southeast Asia*, eds. Denis Hew and Loi Wee Nee. Singapore: Seng Lee Press Ltd.
- Sarel, Michael. 1996. "Nonlinear Effects of Inflation on Economic Growth." *IMF Staff Papers* 43 : 199-215.
- Savedoff, W., and T.P. Schultz. 2000. "Earnings and the Elusive Dividends of Health." In *Wealth from Health: Linking Social Investments to Earnings in Latin America*, eds. W. Savedoff and T.P. Schultz. Washington, D.C.: Inter-American Development Bank.
- Scott, John. 1993. *Purposive Diversification and Economic Performance*. Cambridge: Cambridge University Press.

- Schultz Theodore W. 1968. *Economic Growth and Agriculture*. New York, St. Louis, San Francisco, Toronto, London, Sydney: McGraw-Hill Book Company.
- Schlitz, T.P., and A. Tansel. 1997. "Wage and Labor Supply Effects of Illness in Cote D'Ivoire and Ghana: Instrumental Variable Estimates for Days Disabled." *Journal of Development Economics*, vol. 52, no. 2: 251-286.
- _____. 1964. *Transforming Traditional Agriculture*. New Haven, CT, and London: Yale University Press.
- Schumpeter, Joseph. 1947. "The Creative Response in Economic History." *Journal of Economic History*, vol. 7, no. 2: 149-159.
- Sen, A. 1988. "Mortality as an Indicator of Economic Success and Failure." *Economic Journal*, vol. 108, no. 446: 1-25.
- Sethi, Meera. 2000. Return and Re-integration of Qualified African Nationals. *A Paper Presented at the Regional Conference on Brain Drain and Capacity Building in Africa. 22-24 February 2000*. Addis Ababa, Ethiopia.
- Siermann, Clemens. 1998. *Politics, Institutions and the Economic Performance of Nations*. Cheltenham, UK: Edward Elgar.
- Singer, H. 1950. "The distribution of gains between investing and borrowing countries. In: *American Economic Review, Papers and Proceedings* 40, pp. 473-485.
- Sirowy, Larry, and Alex Inkeles. 1991. "The Effects of Democracy on Economic Growth and Inequality: A Review." In *On Measuring Democracy: Its consequences and Concomitants*, ed. Alex Inkeles. New Brunswick: Transaction Publishers: 125-56.
- Sjoeholm, F. 1999. "Exports, Imports and Productivity: Results from Indonesian Establishment Data." *Working Paper Series in Economics and Finance*, no. 183, Stockholm School of Economics, Sweden.
- Smart, John, C., ed. 1985. *Higher Education: Handbook of Theory and Research*. New York: Agathon Press.
- Smith, A. 1776. *An Inquiry into the Nature and Causes of the Wealth of Nations*. London: Strahem and Caddell.
- Solow, Robert M. 1956. "A Contribution to the Theory of Economic Growth." *Quarterly Journal of Economics*, vol. 70, no. 10: 65-94.
- Ssemogerere, Geremina and Kasekende, L.A. 1994. "Constraints to the Development and Diversification of Non-traditional Exports in Uganda (1981-90)." *African Economic Research Consortium Research Paper* 28, Nairobi.

- Stenmo, S., Thelen, K., and Longstreth, F., eds. 1992. *Structuring Politics: Historical Institutionalism and Comparative Perspective*. Cambridge: Cambridge University Press.
- Stern N., Dethier, J.-J. , and Rogers, H F. 2005. *Growth and Empowerment. Making Development Happen*. Munich Lecture in Economics. Cambridge, MA: MIT Press.
- Stifel, David, and Thorbecke, Erik. 2003. "A dual-dual CGE model of an Archetype African Economy: Trade Reform, Migration and Poverty." *Journal of Policy Modeling*, vol. 25, no. 3: 207-235.
- Stiglitz, Joseph E. 1989. "Markets, Market Failures, and Development." *American Economic Review*, vol. 79, no. 2: 197-203.
- _____. 2006. "Aid for Trade." Paper Prepared for the Annual World Bank Conference on Development Economics, Tokyo, Japan, May 29-30, 2006.
- Stokke, Hildegunn. 2004. "Technology Adoption and Multiple Growth Paths: An Intertemporal General Equilibrium Analysis of the Catch-up Process in Thailand." *Review of World Economics (Weltwirtschaftliches Archiv)*, vol. 140, Issue 1: 80-109.
- Summers, R., Heston, A., and Aten, B. 2006. *Penn World Table Version 6.2*, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.
- Syrquin, Moshe, and Chenery, H.B. 1986. *Patterns of Development: 1950 to 1983*. Washington, D.C: The World Bank
- Syrquin, Moshe. 1988. "Patterns of Structural Change." In *Handbook of Development Economic, Volume 1*, eds. H. Chenery and T.N. Srinivasan. New York, NY: Elsevier: 203-273..
- Tambunlertchai, Somsak. 1993. "Manufacturing." In *The Thai Economy in Transition*, ed. Warr, P.G. Cambridge, UK: Cambridge University Press: 118-150.
- Taylor, Ian. 2006. "China's Oil Diplomacy in Africa." *International Affairs*, volume 82, no. 5: 937-959.
- Taylor, T. (2007) Export Diversification in Latin America and the Caribbean, *Farm & Business: The Journal of the Caribbean Agro-Economic Society (CAES)*, 7(1), 157-175.
- Thirlwall, A.P. 2003. *Trade, the Balance of Payments and Exchange Rate policy in Developing Countries*. Cheltenham: Edward Elgar.
- Thomas, D., and Strauss. 1997. "Health, Wealth, and Wages: Evidence on Men and Women in Urban Brazil." *Journal of Econometrics*, vol. 77, no. 1: 159-185.
- Thomas, Vinod, and Wang, Yan.1997. "Government Policies and Productivity Growth: Is East Asia an Exception?" In *Lessons from East Asia*, eds. Leipziger, D. and Thomas, V. Ann Arbor, USA: The University of Michigan Press: 483-509.
- Tortora, Bob. 2007. "African's Confidence in Institutions-Which Country Stands Out?" *Gallup News Service*, Princeton, NJ, January 18, 2007.

- Tsen, Wong Hoch and Furuoka, Umitaka. 2005. "The Relationship between Population and Economic Growth in Asian Economies." *Asian Economic Bulletin, Online Publication*, 01 Dec-05.
- Turnovsky, S. J. 1974. "Technological and Price Uncertainty in a Ricardian Model of International Trade." *Review of Economic Studies*, vol. 41, no. 2: 201-217.
- UNCTAD. 1995. *Foreign Direct Investment in Africa*, New York and Geneva: United Nations.
- _____. 1997. *Trade and Development Report 1997*. New York and Geneva: United Nations.
- _____. 1999. *Foreign Direct Investment in Africa: Performance and Potential*. New York and Geneva: United Nations.
- _____. 2003. *Economic Development in Africa: Trade Performance and Commodity Dependence*. New York and Geneva: United Nations.
- _____. 2004. *Economic Development in Africa: Debt Sustainability, Oasis or Mirage?* New York and Geneva: United Nations.
- _____. 2008a. *Economic Development in Africa*. United Nations Publication. New York and Geneva: United Nations.
- _____. 2008. *UNCTAD Handbook of Statistics*. New York and Geneva: United Nations.
- _____. 2008. *Export Performance following Trade Liberalization: Some Patterns and Policy Perspectives*. New York and Geneva: United Nations.
- UNDP. 2003. *Human Development Report 2003*, available at <http://www.undp.org/hdr2003/indicator/indic_56_1_1.html>
- UNECA. 1999. *The ECA and Africa: Accelerating a Continent's Development*, available at <http://www.uneca.org/publications/books/eca_and_africa/chapter1.pdf>
- Van Wijnbergen, Sweder. 1985. "Aid, Export Promotion and the Real Exchange Rate: An African Dilemma." *CEPR Discussion Paper, No. 88*. London: Centre for Economic Policy Research.
- Venables, Anthony J. 2003. "Winners and Losers from Regional Integration Agreements" *Economic Journal*, vol. 113, pp. 747-761.
- Vernon, Raymond. 1966. "International Investment and International Trade in the Product Cycle." *Quarterly Journal of Economics*, vol. 80: 190-207.
- Vettas, Nicolaos. 2000. "Investment Dynamics in Markets with Endogenous Demands." *Journal of Industrial Economics*, vol. 48, no. 2: 189-203.
- Viner, J. 1952. *International Trade and Economic Development*. Glencoe : The Free Press

- Vitale P. 2003. Foreign Exchange Intervention: How to Signal Policy Objectives and Stabilize the Economy. *Journal of Monetary Economics*, vol. 50, no. 4: 841-870.
- Vittal, N. 2001. "Corruption and the State." *Harvard International Review*, volume 23, no.3: 20-25.
- Wade, R. 1990. *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*. Princeton, NJ: Princeton University Press.
- Wheeler, David and Mody, Ashoka. 1992. "International Investment Location Decisions: The Case of U.S. Firms." *Journal of International Economics*, vol. 33, Issue 1-2: 57-76.
- White, G., ed. 1988. *Developmental states in East Asia*. New York: St Martin's Press.
- Williamson, O. E. 1975. *Markets and Hierarchies*. New York: Free press.
- Woo-Cummings, M. 1996. "The Political Economy of Growth in East Asia: A Perspective on the State, Market and Ideology." In *the Role of Government in East Asian Economic Development*, eds. M. Aoki H. Kim and H. Okuno-Fujiwara. Oxford: Clarendon Press.
- Wood, Andrian and Mayer, Jorg. 1998. "Africa's Export Structure in a Comparative Perspective." *Cambridge Journal of Economics*, vol. 25, no. 3: 369-394.
- _____.2001. "Africa's Export Structure in a Comparative Perspective." *Cambridge Journal of Economics*, vol. 25, no. 3:369-94.
- Wooldridge, Jeffrey. 2002. *Econometrics Analysis of Cross Section and Panel Data*. Massachusetts: MIT Press.
- _____.2006. *Introductory Econometrics: A Modern Approach*. Thomson: South-Western College Publishing.
- World Bank. 2002. *From Natural Resources to the Knowledge Economy: Trade and Job Quality*. Latin American and Caribbean Studies. Washington, DC: The World Bank.
- _____.2000. *Can Africa Claim the 21st Century?* Washington, DC: The World Bank
- _____.1998. *World Development Report: Knowledge for Development*. Oxford: Oxford University Press.

- _____. 1994. *Adjustment in Africa: Reforms, Results, and the Road Ahead*. Washington, DC: The World Bank.
- _____. 1993. *The East Asian Miracle: Economic Growth and Public Policy*. New York: Oxford University Press.
- _____. 1991. *World Development Report*. New York: Oxford University Press.
- _____. 2005. *World Development Indicators*. Washington DC: The World Bank.
- _____. 2005. "Region Income group List-Enterprise Surveys-the World bank" in <http://www.enterprisesurveys.org/Methodology/EconomyRegionIncomeGroupList.aspx>> downloaded on 2008/12/01.
- _____. 2008a. World Development Indicators. Online database.
- World Trade Organization. 2001. *International Trade Statistics*. Geneva: World Trade Organization.
- Yamawaki, Hideki. 2002. "The Evolution and Structure of Industrial Clusters in Japan." In *Small Firm Dynamism in East Asia*, eds. Iqbal, F. and Urata, S. 2002, The Netherlands: Kluwer Academic Publishers.
- Yergin, Daniel, and Stanislaw Joseph. 1998. *The Commanding Heights: The Battle for the World Economy*. New York, London, Toronto, Sydney: Simon and Schuster.
- Yi, K-M. 2003. "Can Vertical Specialization Explain the Growth of World Trade?" *Journal of Political Economy*, vol. 111, no. 1: 52-101.
- Zellner, Arnold. 1962. "An efficient method of estimating seemingly unrelated regression equations and tests for aggregation bias." *Journal of the American Statistical Association*, vol. 57, no. 298 (348-368).
- Zhang, K. H. 2007. "Does Foreign Direct Investment Promote Economic Growth? Evidence from East Asia and Latin America." *Contemporary Economic Policy*, vol. 19, Issue 2: 175-185.