

**SEIZING THE DAY?  
THE GLOBAL ECONOMIC CRISIS AND AFRICAN MANUFACTURING**

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The 2009 global economic crisis has resulted in unprecedented declines in output and exports from both industrialized and newly-industrializing economies. Output in advanced economies is expected to contract by 2 percent in 2009, a sharp downward revision from expectations just few months ago (IMF, 2009). Forecasts by the World Bank and the OECD are likely to show a further deterioration in the global economic outlook.

Falling demand in the advanced economies has had serious implications for global trade: 2009 is expected to show the first yearly decline in world trade volumes since 1982, and advanced country imports are projected by the IMF (2009) to contract by 3 percent in real terms. The counterpart to the fall in import demand among the advanced economies is a virtually unprecedented projected decline (of close to 1 percent) in exports from developing economies.

**Table 1.1 Shares in world manufacturing value added, 2000 and 2005  
(Percentage)**

Country groups and Regions	2000	2005
Industrialized economies	74.3	69.4
Transition economies	1.4	1.7
Developing economies	24.3	29.0
Sub-Saharan Africa	0.7	0.7
excluding South Africa	0.3	0.3
South Asia	1.5	1.8
excluding India	0.3	0.4
Middle East and North Africa	1.9	2.2
excluding Turkey	1.4	1.7
Latin America and Caribbean	6.6	6.4
excluding Mexico	4.7	4.7
East Asia and Pacific	13.3	17.5
excluding China	6.7	7.7
Least Developed Countries	0.3	0.3
World	100.0	100.0

Source: UNIDO Database.

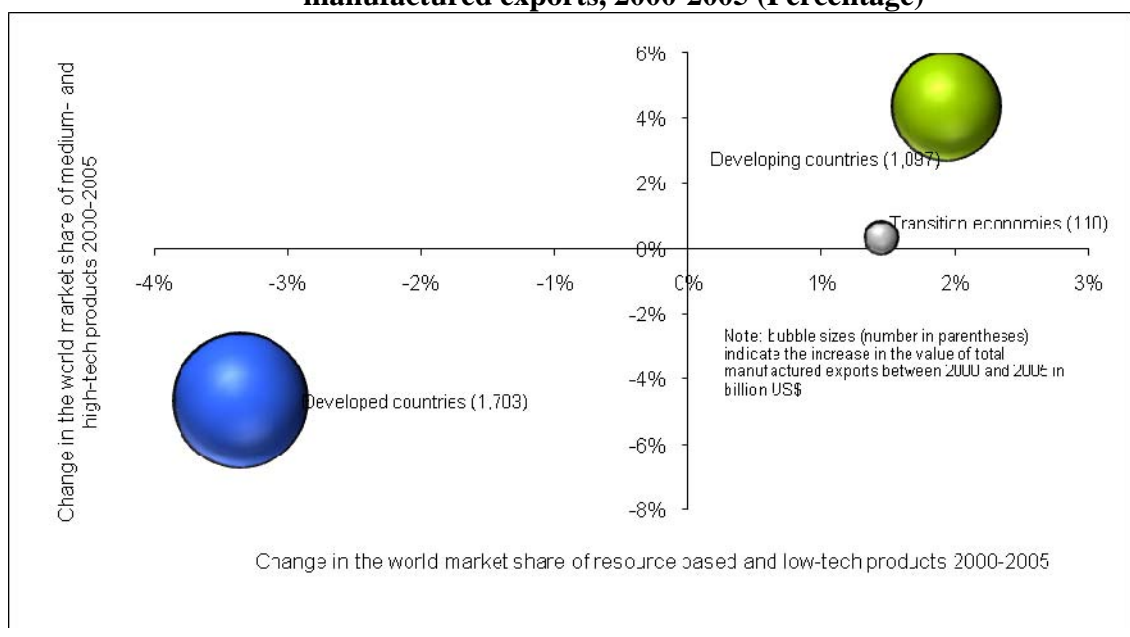
Note: Manufacturing value added is in 2000 US\$.

This contraction of exports and production comes on the heels of the largest continuous expansion of manufacturing in developing economies in world history. Growth of manufacturing in industrialized economies was only 1.1 per cent between 2000 and 2005. In contrast, manufacturing growth in developing economies was 7 per cent. Developing countries increased their share of global manufacturing by almost five percentage points between 2000 and 2005 (Table 1.1). This trend continued through 2008 and signals a shift in the center of gravity

of global manufacturing from developed to developing countries. When the global recession ends it is likely that the major share of global value added in manufacturing will be produced by developing countries (UNIDO, 1009).

Trade has been the engine of growth for developing country manufacturing. Between 2000 and 2005, developing countries gained world market share in both simple (resource-based and low-tech) and complex (medium- and high-tech) manufactures (Figure 1.1). Manufactured exports from all developing regions, except Latin America, grew faster than the world average and faster than exports from the developed economies.

**Figure 1.1 Developing countries have gained market share in all categories of manufactured exports, 2000-2005 (Percentage)**



Source: UN Comtrade

The success of the developing countries -- especially in Asia -- in penetrating global markets for manufactured goods lies at the heart of their current vulnerability to the global down turn. East Asia and the Pacific, and especially China, dominate developing country manufacturing. In 2005, East Asia and the Pacific accounted for 61 per cent of the manufacturing value added of developing economies of which over half was produced by China. Five of the other leading developing country manufacturers are also in East Asia and the Pacific (Republic of Korea, Taiwan (Province of China), Indonesia, Thailand, Malaysia and Singapore). East Asia alone accounted for 74 per cent of developing countries' increase in the value of manufactured exports between 2000 and 2005.

During the explosive growth of manufacturing in developing countries Africa remained on the sidelines. Africa's share of global manufacturing value added (excluding South Africa) fell from 0.4 percent in 1980 to 0.3 percent in 2005, and its share of world manufactured exports went

from 0.3 to 0.2 percent. Africa's marginalization may provide a cushion against the worst consequences of the recession in global manufacturing. With little to produce and sell, little potential output will be lost. But "Africa is not a country". While the global down turn will have only a limited impact on manufacturing activity for the region as a whole, such traditional exporters as Mauritius, South Africa and Tunisia will be affected. It is also possible that a number of emerging African manufacturers -- economies that have recently begun to develop manufactured exports -- may also suffer a decline in demand and output.

This paper attempts to assess the likely impact of the global recession on African manufacturing. It uses detailed partner country trade data to examine the extent of product and market concentration for 17 leading African manufactured exporters to assess their vulnerability to the global decline in demand. Following this introduction, Section 2 provides a brief summary of current projections of output and trade growth for 2009 and 2010. Section 3 takes a long run view of the evolution of manufacturing in Africa. Section 4 identifies leading manufactured exporters. Section 5 presents the basic results on product and market concentration and compares them with similar data for Asia. Section 6 highlights individual countries and product lines where heavy export concentration in rich country markets may make African exporters particularly vulnerable. Section 7 turns to policy: its central theme is that the crisis may present an opportunity for governments in the region to reverse the 30 year decline in manufacturing in the region and to begin to position the region's economies to benefit from a changed international competitive landscape in a post recession recovery.

## **2. A perfect storm: The collapse of global production and trade**

Global output and trade plummeted in the final months of 2008. The depth of the financial crisis, as policies failed to dispel uncertainty, caused asset values to fall sharply across advanced and emerging economies, decreasing household wealth and putting downward pressure on consumer demand. In addition, uncertainty and widespread disruptions in credit markets caused households and businesses to postpone expenditures, reducing demand for consumer and capital goods.

Today, advanced economies are suffering their deepest recession since World War II. Output in the OECD economies is now expected to contract by 2 percent in 2009 (Table 2.1); first annual contraction during the postwar period. The cumulative output loss (relative to potential) for 2009 alone is projected to be comparable to the 1974–75 and 1980–82 recessions (IMF, 2009). According to the IMF, output is expected to start recovering in late 2009 and rise by about 1 percent in 2010.

Growth in developing economies is also expected to slow sharply from over 6 percent in 2008 to about 3 percent in 2009, due to falling export demand, lower commodity prices, and much tighter external financing constraints. Stronger fiscal and balance of payments positions in many emerging economies, however, have provided more room for policies to support growth than in the past. This will help somewhat to cushion the impact of the external shock, and although developing economies will experience serious slowdowns, their growth is projected to remain positive and above rates seen during previous global downturns.

**Table 2.1 GDP Growth 2007 - 2010**

	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>World output</b>	<b>5.2</b>	<b>3.4</b>	<b>0.5</b>	<b>3.0</b>
<b>Advanced economies</b>	<b>2.7</b>	<b>1.0</b>	<b>-2.0</b>	<b>1.1</b>
United States	2.0	1.1	-1.6	1.6
European Union	3.1	1.3	-1.8	0.5
Japan	2.4	-0.3	-2.6	0.6
<b>Emerging and developing economies</b>	<b>8.3</b>	<b>6.3</b>	<b>3.3</b>	<b>5.0</b>
Africa	6.2	5.2	3.4	4.9
Developing Asia	10.6	7.8	5.5	6.9
Middle East	6.4	6.1	3.9	4.7
Western Hemisphere	5.7	4.6	1.1	3.0

Source: World Economic Outlook Update, International Monetary Fund, January 28, 2009

**Table 2.2: Growth in World Trade: 2007 - 2010**

	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
<b>World trade volume (goods and services)</b>	<b>7.2</b>	<b>4.1</b>	<b>-2.8</b>	<b>3.2</b>
<b>Imports</b>				
Advanced economies	4.5	1.5	-3.1	1.9
Emerging and developing economies	14.5	10.4	-2.2	5.8
<b>Exports</b>				
Advanced economies	5.9	3.1	-3.7	2.1
Emerging and developing economies	9.6	5.6	-0.8	5.4

Source: World Economic Outlook Update, International Monetary Fund, January 28, 2009

Low Income Countries have come under intense fiscal pressure, particularly those with no access to private capital markets (World Bank, 2009). These economies must look to ODA and concessional borrowing to fill financing gaps, if they are to protect core spending. Foreign direct investment is falling, particularly in the natural resource sectors, as financing becomes scarcer and as declining commodity prices lead to delays or cancellation of major projects. Remittances, which represent a major source of foreign exchange for many LICs, and an important source of income support for many households, are expected to contract in 2009. In response to their own

domestic fiscal pressures, some donors may find themselves under pressure to scale back concessional assistance on which LICs rely for balance of payments and budget support.

The decline in economic activity – especially in the high income countries – is having a major impact on exports from developing countries. Table 2.2 gives an indication of the magnitude of the slowdown in advanced country imports. Although 70 percent of global trade is between advanced countries, developing economies are highly dependent on advanced country markets for their exports. South-South trade only represents about 10 percent of global trade. As a result, although developing country exports are projected to contract by less than half of the contraction in advanced country exports, they are projected fall by about one percent this year.

### 3. “When you’ve got nothing, you’ve got nothing to lose”: Africa’s deindustrialization

The industrial performance of sub-Saharan Africa lags behind all other regions. Bangladesh alone produces as much manufacturing value added as the entire region of sub-Saharan Africa, excluding South Africa. Table 3.1 compares selected indicators of industrial dynamism for Africa and East Asia. By any of the measures in Table 3.1 Africa – including South Africa - lags East Asia by a wide margin. Resource rich economies in the region perform more poorly in terms of their levels of industrial development and sophistication than resource poor economies, but both groups compare unfavorably with East Asia. The region’s very low levels of manufacturing output in GDP and of medium and high technology goods in total manufacturing output and exports are particularly worrying. Equally worrying is the fact that these measures have changed little since the 1990s (UNIDO, 2009).

**Table 3.1: Selected Indicators of Industrial Dynamism in Africa, 2005**

Country Type	Manufacturing Value Added (MVA) Per capita	Share of Manufacturing in GDP	Share of Manufacturing in Total Exports	Share of Medium and High Technology in Total MVA	Share of Medium and High Technology in Manufactured Exports
Resource-rich Economies	91.1	7.9	50.2	15.6	10.3
Non Resource-rich Economies	121.8	12.1	59.1	15.1	16.8
Excluding South Africa	96.5	11.9	58.5	14.6	15.2

Source: UNIDO database; author’s calculations

Africa's manufactured export performance between 1990 and 2005 also contrasts markedly with that of most other regions. For a country or a region the growth of an export can be decomposed into three parts: a global trend, growth of demand for the product; a geographical trend, shifts in the location of global production; and a market trend, the change in export orientation.

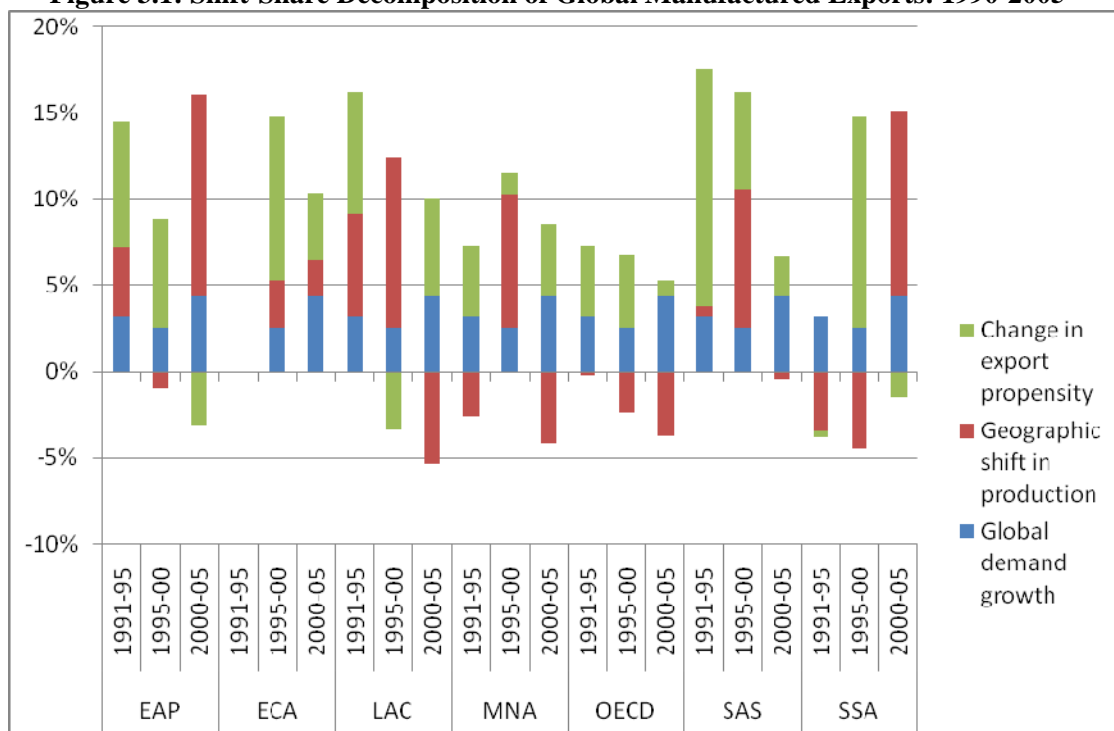
$$\text{Growth in exports} = \text{Growth in global demand} + \text{Geographic shift in production} + \text{Change in export propensity.}$$

Where for each product exported by the country:

- The growth in global demand is given by the rate of increase in world output of the product.
- The geographic shift in production is given by the difference between the rate of growth of output of the product in each country and the rate of growth of world output of the product.
- The change in export propensity is given by the difference between the growth rate of exports from each country and the growth rate of production.

Figure 3.1 applies this decomposition to changes in total export performance in six developing regions and the OECD between 1990 and 2005.

**Figure 3.1: Shift-Share Decomposition of Global Manufactured Exports: 1990-2005**



Source: UNIDO (2009).

East Asia's rapid export growth primarily reflected the global shift in industrial production toward countries in the region, especially after 2000. Increases in global demand played a modest role, as did a rise in export propensity during the 1990s. South Asia had quite a different pattern. A major increase in export propensity took place between 1990 and 1995, accompanied by a rapid geographical shift in production during 1995-2000. Since 2000 South Asia's export growth has been driven primarily by growth in global demand.

The 1990s were marked by a shift in manufacturing production capacity *out* of Africa. Between 1991 and 1995 this shift was sufficiently large to offset global demand growth and, combined with a fall in export propensity, resulted in a decline in manufactured exports. Between 1995 and 2000 a rapid rise in export propensity more than offset a further decline in production, and Africa's manufactured exports grew at about the same pace as in other parts of the developing world. In 2000–2005 Africa recorded one of the highest rates of manufactured export growth in the world, driven by a large geographic shift in production towards Africa, mainly at the expense of Latin America, the Middle East and North Africa and the OECD. The production shift toward Africa, however, was the consequence of the industrial recovery in only one country, South Africa. When South Africa is removed from the Africa sample the geographical shift in production makes a small *negative* contribution to manufactured export growth, which falls one of the lowest levels globally. This production shift was further exacerbated by a fall in export propensity between 2000 and 2005.

The decline in Africa's manufacturing base is worrisome in and of itself, but it has also been accompanied by a decline in the diversity of the region's manufacturing sectors and a fall in the sophistication of the products produced by the region's economies. Relative to their predicted values, the sophistication of the region's early industrializers – Kenya, Ghana and Tanzania – all declined (UNIDO, 2009).<sup>1</sup> Indeed, in the case of Ghana product sophistication declined to a level below its predicted value in 2000. Africa's "deindustrialization" in the 1980s and 1990s was not a decline in manufacturing output alone: it was a decline in manufacturing sophistication as well.

Exports tell a somewhat different story: relative to income export sophistication increased between 1975 and 2000 in many African countries. In 1975 Tanzania, Ghana, and Uganda for example had levels of export sophistication which were below the predicted values for their levels of income. By 2000 Tanzania and Uganda had exceeded their predicted levels of export sophistication and Ghana was close to its predicted value. Mozambique and Senegal exhibited similar, although less dramatic, increases in export sophistication.

Putting the production and export stories together, what appears to have taken place in the 1980s and 1990s in Africa was a narrowing of the production base in manufacturing toward less sophisticated activities. This is consistent with the closure of non-competitive, import substitution industries – many of them state owned - following the trade liberalizations of the adjustment period. Those activities that remained following trade liberalization, however, were more competitive internationally. As a consequence, export structures in a number of better

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<sup>1</sup> Sophistication is defined – following Hausmann, Hwang and Rodrik (2007) – as the weighted average per capita income level of the production and export product basket of each country, where the income level of products is defined by the per capita income of countries that intensively produce them. (See UNIDO, 2009.)

performing economies moved in the opposite direction, becoming more sophisticated, relative to their level of income. This was the good news. The bad news was that there was no accompanying rapid expansion of manufactured exports. No African economy has shown a path of rapid manufactured export growth, rising manufacturing and export sophistication and income growth similar to those displayed by the East Asian economies.

#### 4. “Africa is not a country”: Leading manufactured exporters.

While the regional picture for manufacturing is grim a number of individual countries have shown some recent signs of increasing industrial dynamism. Unfortunately, these are the economies most likely to be effected by the global downturn. Table 4.1 lists the top ten African exporters in terms of manufactured exports per capita.

Only three countries – Botswana, Mauritius and Swaziland – had per capita exports exceeding US\$ 1000 in 2005, the last year for which comprehensive export data are available. At the bottom of the top ten Ghana, Lesotho and Morocco recorded less than US\$ 300 manufactured exports per capita. Yet, Ghana’s per capita exports, the lowest in the group, were still more than four times the regional average of US\$ 39.

**Table 4.1 Top Ten Per Capita African Manufactured Exporters, 2005**

Country	Mfg Exports PC 2005	Growth PC Exports 00-05	% Mfg Exports in Total	Change in % Mfg Exports in Total 00-05	Medium/High in total Mfg Exports	Share of Mfg in GDP 2005	Change in Mfg Share of GDP 00-05
Botswana	2082	1.37	97.0	+	5.8	23.2	-
Cote d’Ivoire	219	2.09	54.8	+	36.2	19.0	-
Ghana	164	2.93	65.1	-	10.4	08.1	-
Lesotho	186	0.00	93.8	-	6.1	15.6	+
Mauritius	1523	1.23	94.5	-	21.0	17.5	-
Morocco	294	1.48	79.1	+	27.6	16.9	-
Namibia	776	1.48	63.0	-	19.3	10.0	+
South Africa	703	1.68	70.2	+	46.8	16.3	-
Swaziland	1299	1.62	93.6	-	16.3	24.3	-
Tunisia	889	1.70	85.0	-	31.5	17.2	-
Africa Regional Average	39	1.65	54.9	+	13.3	07.6	-

Source: Author’s calculations from Nicita and Orreagada (2008) data base.

In general the leading manufactured exporters are also Africa’s leading manufacturing economies. With the exception of Ghana and Namibia all had more than double the regional average share of manufacturing in GDP (7.6 per cent). Eight of the ten economies, however, saw a reduction in the share of manufacturing in GDP between 2000 and 2005. With the exception of the Ivory Coast the ten leading industrial exporters also had substantially higher shares of manufactured exports in total exports than the regional average (55 percent), but six of the ten

experienced declines in the share of manufactured exports in total exports between 2000 and 2005.

One striking feature of the group of leading exporters is that only two of the ten economies – Ivory Coast and Ghana - had growth rates of per capita exports that substantially exceeded the regional average. In fact six of the ten had per capita growth that trailed the regional average. While these are Africa's largest manufactured exporters in per capita terms, they are not its most dynamic.

Table 4.2 lists the top ten countries in the region in terms of growth of per capita manufactured exports. The two lists share only three common entries – Ghana, Ivory Coast and Tunisia. What is striking about the rest of the rapidly growing manufactured exporters is the extremely low level of manufactured exports per capita. Four of the remaining seven – Benin, Cameroon, Tanzania and Uganda – are at or below the regional average, and none have per capita manufactured exports that exceed US\$ 100.

**Table 4.2: Top Ten African Manufactured Exporters by Per Capita Growth 2000-2005**

Country	Mfg Exports PC 2005	Growth PC Exports 00-05	% Mfg Exports in Total	Change in % Mfg Exports in Total 00-05	Medium/High in total Mfg Exports	Share of Mfg in GDP 2005	Change in Mfg Share of GDP 00-05
Benin	10	2.50	30.4	+	13.8	08.5	-
Cameroon	39	2.16	25.9	+	5.1	10.3	+
Cote d'Ivoire	219	2.09	54.8	+	36.2	19.0	-
Ghana	164	2.93	65.1	-	10.4	08.1	-
Kenya	42	2.10	52.4	+	11.0	10.1	-
Mozambique	69	13.71	76.4	+	4.6	16.2	+
Senegal	88	2.44	69.7	+	31.3	13.2	+
Tanzania	22	3.14	54.5	+	3.4	07.2	+
Tunisia	889	1.70	85.0	-	31.5	17.2	-
Uganda	10	2.00	36.6	+	21.4	09.2	+
Africa Regional Average	39	1.65	54.9	+	13.3	07.6	-

Source: Author's calculations from Nicita and Orreagada (2008) data base.

Mozambique emerges as the region's most rapidly growing manufactured exporter with a rate of growth of 13.7 per cent between 2000 and 2005. Ghana and Tanzania grew their manufactured exports per capita at about 3 percent and nine of the ten grew at more than 2 percent. With the exception of Ghana and Tanzania all of the rapidly growing exporters increased the share of manufactured exports in total exports.

Table 4.3 puts the Africa data in international perspective, comparing the level and growth of per capita manufactured exports with two recent groups of new industrializers in East Asia and Central America. In terms of levels and growth rates the top ten African countries compare quite favorably with the newest manufacturing countries in East Asia and Central America. In particular Ivory Coast, Ghana and Lesotho have export levels that are quite similar to those in

Cambodia, Lao, PDR and Vietnam. Africa's fastest growing manufactured exporters also compare quite favorably with their Asian and Central American counterparts in terms of the rate of growth of manufactured exports per capita.

**Table 4.3: Per Capita Manufactured Exports Asia and Latin America**  
East Asian New Industrializers

Country	Mfg Exports PC 2005	Growth PC Exports 00-05	% Mfg Exports in Total	Change in % Mfg Exports in Total 00-05	Medium/High in total Mfg Exports	Share of Mfg in GDP 2005	Change in Mfg Share of GDP 00-05
Cambodia	198	1.85	97.5	-	0.9	19.9	+
Lao, PDR	147	9.20	89.2	+	1.0	14.7	+
Vietnam	211	2.42	54.0	+	21.4	22.5	+

Central American New Industrializers

Country	Mfg Exports PC 2005	Growth PC Exports 00-05	% Mfg Exports in Total	Change in % Mfg Exports in Total 00-05	Medium/High in total Mfg Exports	Share of Mfg in GDP 2005	Change in Mfg Share of GDP 00-05
Costa Rica	1251	1.22	75.7	+	59.8	21.3	-
El Salvador	202	1.39	83.7	+	23.6	23.2	+
Guatemala	305	2.58	48.7	+	19.4	12.6	-

Source: Author's calculations from Nicita and Orreagada (2008) data base.

Table 4.4 classifies 17 the countries in Tables 4.1 and 4.2 into four groups by income level, level of manufactured exports per capita, per manufactured export growth and level of export sophistication. Six middle income economies emerge as major exporters in terms of manufactured exports per capita, and three – Mauritius, South Africa and Tunisia – are among the five most sophisticated African economies in terms of export structure. None of the six, however, are among the regions fastest growing economies in terms of manufactured exports. The remaining four major exporters, all low income countries, are split evenly into two groups. Lesotho and Swaziland are slow growers and Ghana and Ivory Coast are fast growers in terms of their manufactured exports per capita.

**Table 4.4: “African Achievers” in Manufactured Exports**

Middle Income Exporters	Major – Slow Growing LICs	Major – Fast growing LICs	Minor – Fast Growing LICs
Botswana, <i>Mauritius</i> , Morocco, Namibia <i>South Africa, Tunisia</i>	Lesotho, Swaziland	Ghana, Ivory Coast	Benin, Cameroon, Kenya, Mozambique, <i>Senegal</i> , Tanzania, <i>Uganda</i>

Note: Countries in italics are those with the five most sophisticated export structures.

The middle income and slowly growing major exporters form two distinct geographical groups. The first is a North African group, consisting of Morocco and Tunisia, and the second is a SADC group consisting of Botswana, Lesotho, Namibia, South Africa and Swaziland. Mauritius is the only outlier. The fast growing low income countries fall into two geographical groupings as well: a West African group consisting of Benin, Cameroon, Ghana, Ivory Coast and Senegal, and an East African group consisting of Kenya, Mozambique, Tanzania, and Uganda.

## **5. Achievers at risk: Product and market concentration.**

Section 4 identifies 17 “African achievers”, differentiated to a degree by income level, geographical location, export dynamism, and export sophistication. The current recession is likely to pose different challenges for each of these groups. The vulnerability of each group to the global down turn will depend on the degree to which their manufactured exports are concentrated in terms of individual product lines or markets. In the worst case scenario a country with exports heavily concentrated in income elastic products sold to countries experiencing a major demand contraction will be severely affected. In contrast an economy with a more diversified portfolio of products both in terms of products and destinations may be better positioned to ride out the global recession.

This section uses internationally comparable, disaggregated, country-level trade data to evaluate export concentration for the 17 African Achievers. All variables are constructed from the bi-lateral trade data (about five million observations for 200 countries and territories) presented in Nicita and Olarreaga (2008). The average share of each ISIC 3 digit category in total manufacturing exports for the period 2002-2004 is calculated for each country. Sector shares add up to 100 per cent for each country (or country group). Within each ISIC 3 digit sector export destinations for each country (or country group) are classified into five destination groups using the standard World Bank classification by income level. Destinations are thus high income OECD countries, other high income countries, upper middle income countries, lower middle income countries and low income countries (LIC). All destinations sum to 100 per cent across the five destination groups within each country-sector category. The top 10 sectors by share in total exports are ranked for each country (or country group), as are the five export destinations for each sector. Two comparators are also shown: China, and low income South East Asia, defined to include Cambodia, Lao, PDR and Vietnam.

Average product and market shares for the 17 countries listed in Table 4.4 are presented in Table 5.1. The leading export sector for the group is food products (20 per cent) followed by apparel (15) and other manufactured goods (11). The five sector concentration ratio for the group is 64 percent, and the top ten export sectors account for 86 per cent of the Africa achievers total manufactured exports.

The geographical distribution of the Africa 17 markets is something of a surprise. While as expected, the bulk of the group’s exports are to advanced economy markets (65 per cent), a substantial share of the group’s exports also goes to low income countries: 21 percent of the top five exports and 14 percent of the top ten are sold in low income country markets. Although this result is heavily influenced by the weight of refined petroleum products – where countries with refineries presumably sell to neighboring countries – high LIC market shares are also present in nonferrous metals, industrial chemicals, electrical machinery and textiles.

Table 5.2 provides comparative data on product and market concentration for the Africa 17, the South East Asian NICS and China. In general terms there is not much difference in the product concentration ratios between the African economies and China, although their export baskets are markedly different. While the Africa 17 mainly export food products, apparel, other

manufactures, non-ferrous metals, and industrial chemicals, China's five leading export sectors are electrical machinery, machinery other manufactures, apparel, and fabricated metals.

**Table 5.1: Product and Market Concentration for the Africa 17**

2002-2004 Sector	Sector		Export destination (share)					RCA	
	ISIC	X_share	HOECD	HOTH	MIDUP	MIDLW	LIC	%	logs
Food	311	20%	68%	7%	8%	4%	13%	235%	0.85
Apparel	322	15%	85%	1%	5%	2%	7%	68%	-0.39
Other	390	11%	75%	2%	10%	3%	10%	48%	-0.74
NonferrMetal	372	11%	56%	6%	9%	11%	19%	90%	-0.11
Indu Chem	351	7%	26%	1%	10%	10%	55%	23%	-1.47
Wood	331	7%	68%	2%	6%	6%	18%	58%	-0.54
Petro-Refine	353	6%	28%	5%	9%	11%	52%	37%	-1.00
ElectrMachinery	383	3%	54%	4%	13%	5%	23%	7%	-2.68
Leather	323	3%	74%	3%	9%	3%	12%	51%	-0.68
Textiles	321	3%	45%	3%	13%	5%	34%	42%	-0.86
Top 5	64%		62%	3%	8%	6%	21%		
Top 10	86%		58%	3%	9%	6%	24%		

Source: Author's calculations from Nicita and Orreagada (2008) data base.

The East Asian NICS are substantially more highly product concentrated than either the Africa 17 economies or China: their top five export sectors represent about 75 per cent of their total exports. The three leading export sectors of the Asian new industrializers – apparel (32 per cent), electrical machinery (20 per cent) and machinery (10 per cent) – account for nearly two thirds of their total exports. The Africa 17 in contrast have only 46 per cent of their total export in the top three sectors – food products (20), apparel (15) and other manufactures (11).

The three groups diverge significantly in market orientation. Broadly speaking China trades more with high income countries, the Asian NICS with middle income countries, and the Africa 17 with low income countries, compared with their counterparts. Neither the South East Asian NICS, nor China, exhibit the Africa 17 group's strong orientation toward Low Income Country markets. In the case of China 87 percent of its top five exports are directed at high income countries; only 2 percent are destined for LIC markets. Middle income country markets play a more prominent role for the exports of the South East Asian NICS than for either African exporters or China. Twenty one percent of the Asian NICS top five exports go to middle income countries, compared to 11 per cent for China and 14 percent for Africa.

**Table 5.2: Product and Market Concentration Africa 17, Asia NICS and China, 2005**

	Share of Exports	HOECD	HOTH	MIDUP	MIDLW	LIC
<b>Africa 17</b>						
Top 5	64%	62%	3%	8%	6%	21%
Top 10	86%	58%	3%	9%	6%	24%
<b>Asia NICS</b>						
Top 5	75%	57%	10%	10%	11%	12%
Top 10	87%	61%	10%	10%	10%	9%
<b>China</b>						
Top 5	67%	66%	21%	8%	3%	2%
Top 10	84%	64%	24%	8%	3%	1%

Source: Author's calculations from Nicita and Orreagada (2008) data base

In light of the output and import projections summarized in Section 2, several patterns of vulnerability emerge at the level aggregation of the Africa 17 and its comparators. Broadly speaking, the Africa 17 appear to be better positioned to ride out the crisis than either of their Asian competitors, given their greater concentration of export markets in low income countries. Low income countries are projected to fare better than their higher income counterparts during 2009-2010.

Among the Africa 17's major exports apparel, other manufactures, wood products and leather products are most highly concentrated in advanced country markets and are likely to be severely impacted by the fall in import demand in the OECD. Even in these groups, however, Africa's exposure to advanced country markets is more limited than are those of the East Asian NICS. Ninety-six per cent of the Asian NICS apparel exports are to advanced country markets, 91 percent of other manufactures, and 61 per cent for wood products. China shows similarly high market concentration in high income countries in the same product lines.

## **6. More bad news: some countries are more vulnerable than others**

While Africa's limited exposure to the global market for manufactures and relatively high share of manufactured exports to low income countries may provide a measure of insulation for the region as a whole from the worst impacts of the global decline in manufacturing demand, a number of the African achievers identified in section 3 will face substantial risks both in individual product lines and to their manufacturing sector more broadly. Table 6.1 identifies key ISIC three digit sectors with high market concentration in three income groups of countries: high, middle and low. Countries with high concentrations of exports in advanced country markets are those that are most at risk of a severe contraction in manufacturing activity.

**Table 6.1: Product Lines with High Market Concentration**

	South Africa	Mauritius	SADC 4	North Africa	Ghana/Ivory Coast	East Africa 3
Products with high concentration in high income markets	Other Manufactures (89%) Transport Equipment (82%)	Apparel (99%) Food Products (95%) Other Manufactures (95%) Equipment (96%)	Apparel (100%) Other manufactures (98%) Food Products (89%)	Apparel (98%) Electrical Machinery (90%)	Food Products (81%) Wood Products (84%)	Apparel (98%) Other manufactures (79%) Food Products (65%)
Products with high concentration in middle income markets	Iron and Steel (25%) Machinery (19%)	Textiles (43%)		Industrial Chemicals (32%) Food Products (20%)		Nonferrous metals (26%) Textiles (22%)
Products with high concentration in low income markets	Non ferrous metals (22%) Machinery (22%)		Non metallic minerals (51%)	Industrial Chemicals (25%)	Industrial chemicals (90%) Textiles (44%)	Iron and Steel (97%) Other Chemicals (90%) Industrial chemicals (78%) Machinery (78%) Textiles (50%) Nonferrous metals (50%) Food Products (29%)

The region's two manufacturing powerhouses – South Africa and Mauritius – provide an interesting contrast in vulnerabilities. South Africa's diversified industrial base and its relatively high exposure to middle and low income country markets make it likely that the contraction of export demand will be moderate. South Africa is most exposed to advanced country markets in other manufactures and transport equipment, but these sectors each represent only 11 percent of total exports. South Africa's leading export – nonferrous metals – has a relatively high orientation to low income country markets.

Mauritius in contrast has an export structure which is highly concentrated in just two product lines – apparel (50 per cent of total exports) and food products (29 percent of total exports) – both of which have very high concentration in advanced country markets. Indeed, 90 percent of Mauritius' manufactured exports are concentrated in just four sectors, all of which have more than 95 per cent of their sales to advanced country markets. Thus, Mauritius manufacturing sector is likely to be severely affected by the projected decline in high income country exports.

Morocco and Tunisia face similar, although less extreme, problems of export concentration in high income markets. Two sectors apparel and electrical machinery, account for about half of all exports and are highly concentrated in advanced country markets. Industrial chemicals the third leading export in contrast shows a much higher degree of market orientation toward middle and low income country markets.

Ghana and the Ivory Coast – the two West African, rapidly growing major exporters – are heavily concentrated in food and wood products exports which together account for more than 60 percent of total manufactured exports. These two sectors are also highly (more than 80 percent) concentrated in high income markets and are likely to be strongly affected by the decline in high income country demand.

Among the minor exporters that have enjoyed rapid growth of manufactured exports, the three original members of the East African Community stand out for their relatively limited exposure to advanced economy markets and their relatively strong orientation toward low income countries. Of their leading five exports only apparel in Kenya and other manufactures in Uganda have market concentration ratios in advanced economies of more than 90 percent. These sectors, however, represent relatively modest shares of each country's total manufactured exports – 15 per cent for apparel in Kenya and 12 per cent for other manufactures in Uganda.

Finally, the four smaller members of SADC present a mixed picture. Two countries – Botswana and Lesotho – have export structures that are highly concentrated in terms of both products and markets. Eighty-eight percent of Botswana's manufactured exports are in the other manufactures category of which 98 percent are directed to high income country markets. Ninety-eight percent of Lesotho's manufactured exports are apparel and are wholly concentrated in high income markets, mainly the United States. Namibia's and Swaziland's exports are more diversified.

Ironically, Africa's lack of success in finding a foothold in global manufacturing is likely to mean that in comparison with the newly industrializing countries in Asia the global recession will be less strongly felt by Africa's manufacturing sector. This “good news” notwithstanding,

with the possible exception of South Africa, the few African economies that have succeeded in building a substantial export manufacturing base – Botswana, Mauritius, Morocco, Tunisia – are the most vulnerable to the global down turn, due to relatively highly concentrated exports to advanced economies. And some of Africa’s major export lines -- apparel, food products and wood products, all widely produced and exported by Africa’s leading manufacturing economies - - are heavily oriented to high income country markets and are likely to suffer from the global decline in demand.

## **7. Opportunity in adversity?**

Is the continent’s failure to grow and diversify its manufactured exports a blessing in disguise? In the very short run; perhaps, but in the longer term; definitely not. Without a growing manufacturing sector the region’s economies will find it increasingly difficult to sustain growth and to participate fully in the recovery of global economic activity projected for 2010 and beyond. Two important empirical findings linking industrial production, exports, and economic growth point to the risks inherent in Africa’s continued marginalization from global production and trade in manufactures. The first is that countries with more diversified production (Imbs and Wacziarg, 2003) and export (Carrere, Strauss-Kahn, and Cadot, 2007) structures have higher incomes per capita. New product lines are introduced and new activities are taken up within existing sectors, until countries reach quite high levels of income. The second is that countries that produce and export more sophisticated products – those that are primarily manufactured by countries with higher income levels - tend to grow faster (Hausman, Hwang, and Rodrik, 2007; UNIDO, 2009).

Why should industrial and export diversity and sophistication matter for development? One reason may be that more diverse economies are better able to take advantage of export opportunities in global markets as they emerge. In the studies cited above industrial diversification appears to lead export diversification. This is consistent with the idea that economies build industrial competence in new activities and then enter global markets. As the manufacturing base in developing economies broadens from low sophistication to higher sophistication activities, new export opportunities arise. If those opportunities can be successfully exploited, “learning through exporting” may take place, raising the productivity of the manufacturing sector and providing further momentum for industrial diversification and growth.<sup>2</sup>

Another reason why diversity matters may be that a wide range of industrial activities provides a broad basis for the entry and exit of firms. Productivity differs significantly across firms in developing economies even within the same sector. A broad industrial base may facilitate the creation or expansion of more productive firms and ease the exit of less productive ones.<sup>3</sup> The fact that industrial diversity and export diversity appear to be closely related to each other in fast

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<sup>2</sup> The learning by exporting hypothesis is subject to criticism that more productive firms may self select to export. Bigsten et al. (2004) provide persuasive evidence that in Africa the relationship runs from exports to higher productivity rather than vice versa.

<sup>3</sup> Hausmann and Rodrik (2005) refer to this process as “self-discovery”; firms learning what they are most competent at doing.

growing economies may reflect the fact that diverse industrial structures facilitate the growth of globally competitive firms in an economy. A country with a rapidly growing number of such globally competitive firms will experience rapid productivity change within manufacturing and more rapid growth.

Seen from this perspective, Africa's lack of a diversified and sophisticated export structure may severely limit its growth prospects. The good news -- that Africa's marginalization from global manufacturing will insulate it to a degree from the magnitude of the impact likely to be felt by East and South Asia - is really bad news. Unless Africa can find a way to use the breathing space created to position itself to achieve greater industrial dynamism in a post-recovery world, it is at risk of not participating fully in the global recovery.

But if Africa's economies were finding it difficult to compete in global manufacturing during the good times, is there any reason to believe that they can compete in adverse times? Today, new entrants to manufacturing are no longer merely competing with the high-wage OECD, as China was when it broke into the market. They are competing with China. In effect, China now plays the role previously played by "the North": it has the scale economies which make it competitive against new entrants, despite rising production costs. One prospect is that there may be no room for Africa in global manufacturing – particularly now - because East Asia is firmly established.

Fortunately, there are three reasons to think that the future is less bleak than this suggests:

- ***Rising costs in China.*** Despite the global downturn, China is still growing so rapidly that it is likely to encounter rising costs in manufacturing production. One source of rising costs will be rising real wages. Further, China has only a limited number of coastal cities. As these expand, they are likely to encounter diseconomies of congestion, and although Chinese manufacturers may shift production into the interior, this will increase transport costs.
- ***Domestic stimulus in Asia.*** Asia's established industrial economies – China and India included – have the means to introduce domestic stimulus packages intended to offset the fall in export demand. The expansion of domestic demand is likely to cause some reorientation of manufacturing activity toward the local market, creating space for potential competitors in third country markets.
- ***High vulnerability of the South East Asian NICS.*** The very rapid growth of manufactured exports in Cambodia, Lao, PDR and Vietnam is largely based on end stage production of task based products in apparel and electronics/electrical apparatus. These exports are highly concentrated in advanced country markets and very footloose. To date the response of task based producers in these countries has been to close down capacity in the face of declining demand. Cambodia alone has lost 30,000 jobs in apparel manufacturing (World Bank, 2009). It is possible that investors may seek new locations for such activities as demand recovers.

Whether Africa can seize the day and use the global crisis as an opportunity to position itself better for an eventual recovery will depend largely on whether it can make itself more attractive to global (and domestic) investors in task based production. For most countries in Africa, trade in tasks is a potential lifeline. It is considerably more feasible to specialize in a single task rather

than in the entire range of tasks needed to produce a product. Because task-based manufacturing is relatively mobile, it is conceivable that African economies with better investment climates may benefit from new foreign investments as the global economy begins to recover.

The fact that the global recession will largely bypass Africa's manufacturing sector means that little change is needed in the policy framework to promote industrialization. African economies, with the possible exception of Mauritius, Morocco, Tunisia and South Africa will face little imperative to address the short run problem of preserving existing industrial capacity. Rather the vast majority of countries, including those of the Africa 17, face the even more daunting task of solving the long run problems that have constrained their industrial development.

There is a large literature on the investment climate in developing countries and the need for reductions in the cost of doing business.<sup>4</sup> This is of course central to the success of any industrialization strategy. Many of the African countries that have failed to industrialize have an unfinished agenda of economy-wide reforms that will need to be pursued if they are to gain ground in attracting both domestic and foreign investors. But while necessary, these policy and institutional reforms may not be sufficient to spark dynamic industrial growth.

In addition four key areas of institutional and policy reform should be high on the agenda of Africa's economies as they try to position themselves to break into global manufacturing:

- ***Closing the Infrastructure Gap*** Industry depends on infrastructure, and Africa continues to lag other regions badly in terms of the quality and coverage basic infrastructure. Three closely related policy initiatives are needed to close the infrastructure gap: changing public expenditure priorities to increase the share of the budget devoted to infrastructure investments; improving the quality of investment and service delivery, including by encouraging private investment and operation. Protecting infrastructure investments and reaching new understandings with development partners on the relevance of basic infrastructure to growth and poverty reduction will prove especially difficult during the down turn, but the lessons of the 80s and 90s eloquently demonstrate the consequences of failing to do so.
- ***Improving Trade Logistics*** Trade logistics matter a great deal for export performance, and again Africa ranks poorly on international comparisons and trade logistics. Reforms need to move beyond the traditional "trade facilitation" agenda -- focused on trade related infrastructure and information technology in customs - to broader reforms of institutions and markets. In Africa infrastructure deficiencies interact with poor public institutions and lack of competition and competence among service providers to create a vicious circle of constraints. Breaking this circle may be easier in a limited physical environment such as an export processing zone (EPZ) than attempting to do it for the economy as a whole.
- ***Supporting Industrial Clusters.*** Agglomeration economies confer powerful advantages to firms located in industrial clusters. Compared with the South East Asian NICs Africa

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<sup>4</sup> See for example the *Doing Business* surveys of the World Bank or the *World Competitiveness Report* of the World Economic Forum.

has few and sparsely populated industrial clusters, making it more difficult for African firms to compete in the global market place. Because industrial clusters are the outcome of decisions by individual firms to locate near each other, policy makers need to be quite careful to work with the market, not against it, in designing spatial policies to promote industrial development. One instrument that has worked effectively in Asia is the Special Economic Zone (SEZ). The main benefit of an SEZ is that it provides a clear focus for government investments and institutional reforms designed to encourage the location of firms in a specific area. In the case of an export processing zone (EPZ), it is subject to an efficiency test -- firms located in the cluster must be able to export. Effective use of an SEZ depends on adequate investment, good management, active engagement of the private sector and well functioning institutions.

- ***Achieving Regional Integration.*** Regional integration is likely to matter a great deal for industrialization in Africa, but not for the traditionally advanced reasons. Small, low-income countries are at a massive disadvantage in industrialization. The problem is not primarily that the domestic market for the output of industry is small; that can be overcome by focusing on the external market. The core problem is that small countries have small cities in which to purchase all the myriad of inputs and skills that a firm needs. Big cities generate powerful scale economies. A firm operating in a city of 10,000,000 people has unit costs around 40 per cent lower than if it operated in a city of only 100,000 people (UNIDO 2009). To overcome this problem a form of integration that permits the free movement of goods, capital and people across borders -- allowing the formation of regional cities - will be needed.

Africa's ability to succeed in manufacturing will also depend fundamentally on the actions of the rich economies. The current recession has produced a disturbing trend toward protectionism in the OECD. Since the beginning of the financial crisis, roughly 78 trade measures have been proposed or implemented, of which 66 involved trade restrictions. Of these, 47 measures were actually implemented, including by 17 of the G20. In addition, anti-dumping claims and actions increased 20 percent in 2008 relative to 2007; and 55 percent in the second half of 2008 relative to the first half of 2008 (World Bank, 2009). These measures may be difficult to reverse and will slow the recovery.

Beyond resisting further limitations on market access, there is a reasonable case for a concerted OECD-wide approach to using trade preferences to pump-prime the poorest countries -- mainly located in Africa - into global markets. At present different OECD countries have different schemes, and most of them are not well-designed or effective. Indeed, the very multiplicity of schemes is a needless source of complexity. What is needed is a simple system of temporary preferences with liberal rules of origin for the poorest and least developed manufacturing countries. Once countries have established the ability to compete, preferences can be withdrawn.

## **8. Conclusions**

For a continent that had endured nearly 25 years of slow growth the global financial crisis and its attendant global recession is certainly not welcome news. Commodity prices have fallen, foreign

investment has declined, development assistance is under pressure and remittances have weakened. Growth will be lower in Africa in 2009 than in any of the last 10 years.

But, paradoxically, some of the elements that contributed to Africa's long period of stagnation – declining manufacturing production, increasing marginalization from the world market for industrial exports, and failing to establish new sources of industrial dynamism – have protected what remains of Africa's manufacturing sector from the worst impacts of the global melt-down. As a region, relative to East and South Asia, Africa's main manufactured exports are more heavily concentrated in middle and low income markets than in high income markets.

While on average manufacturing across the continent will not suffer from the global recession to the degree of Latin America, South or East Asia, a number of individual countries and sectors are likely to be strongly affected. Those few African countries that had achieved some success in manufactured exports – especially Mauritius, Morocco, and Tunisia – are likely to feel the reduction in global manufacturing demand to the same degree as other newly industrializing countries. Their main export products are highly concentrated in advanced country markets. Sectors such as apparel, food products, wood products and minerals are also likely to come under heavy pressure.

For the vast majority of the region's economies lack of industrial and export diversity acts as a powerful constraint to growth. Fortunately, there are some reasons to believe that the recession may represent an opportunity to boost manufacturing in Africa. Costs will continue to rise in China. Domestic stimulus in Asia may reorient production away from global markets, and task-based trade production may not return to the South East Asian NICS.

Whether this creates an opportunity for more industrial dynamism in Africa depends largely on whether African economies can solve the problems that have constrained industrial development in the past. The recession provides some much needed breathing space for African governments to accelerate reforms in the investment climate – including in such key areas as infrastructure, trade logistics, spatial industrial policy and regional integration. It may also provide a new setting in which to push the OECD countries to agree to a better system of preferences for manufactured exports from Africa.

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