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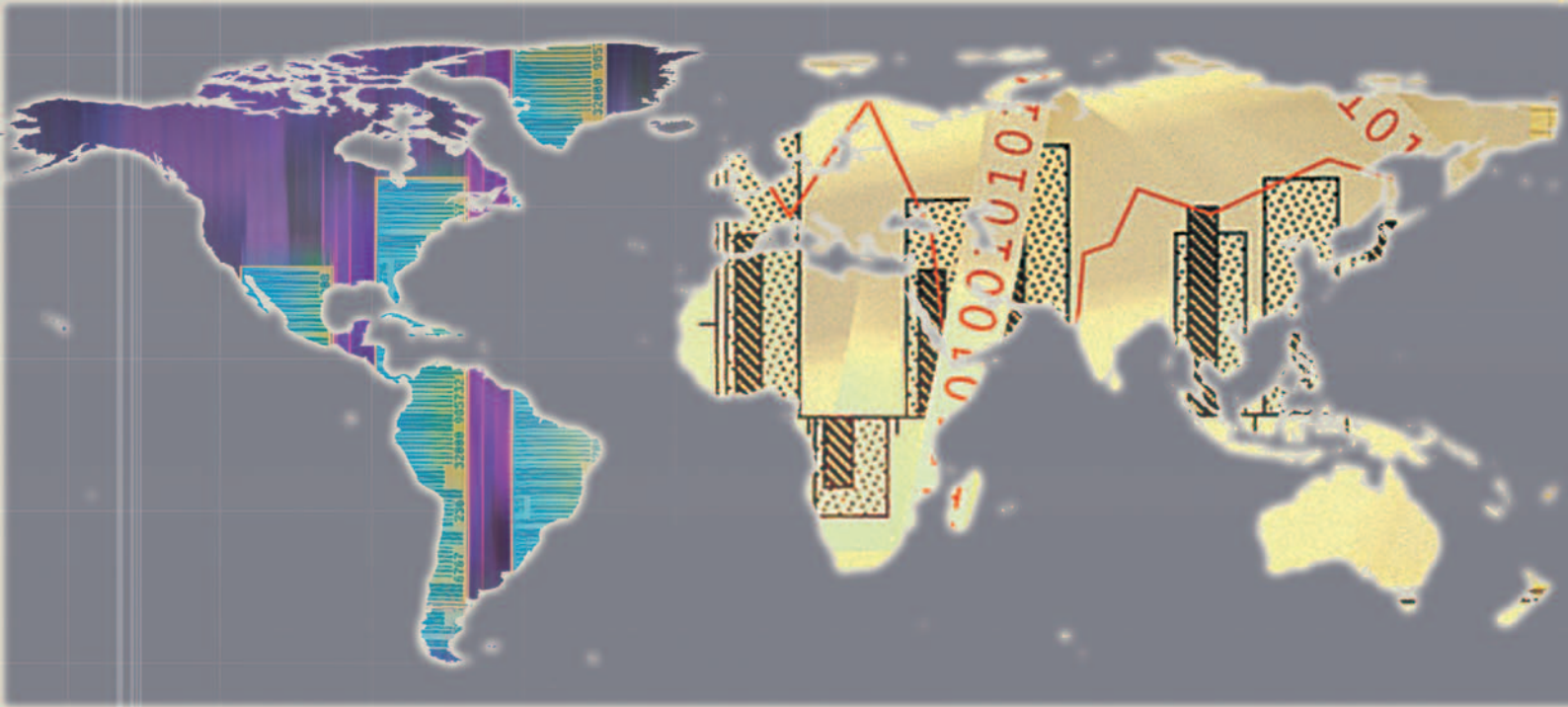
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The Global Financial Crisis and the Developing World: Impact on and Implications for the Manufacturing Sector



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The Global Financial Crisis and the Developing World: Impact on and Implications for the Manufacturing Sector

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Abstract

The paper analyses the impact of the global economic crisis of 2007-2010 on the manufacturing sector of a sample of 11 low and middle income economies, and examines in detail its impact on three manufacturing sub-sectors – textiles and garments, the automotive industry and agro-industries. Within the context of globalisation, the evolution of the financial crisis is outlined and its impact on the global economy identified, and the main transmission mechanisms by which the crisis spread to the developing world discussed. The macroeconomic impact of the crisis and an overview of its impact on the manufacturing sector in general, along with government and corporate responses, are then examined.

The lessons that can be learned from the country case studies, and in particular the future role of industrial policy, are then identified. Economic data are still incomplete, provisional and ambiguous, so care must be exercised in reaching conclusions. In general, the impact of the crisis has been highly uneven, but it can be tentatively concluded that the more integrated into the global economy is the individual economy, through previous policies of financial sector and trade liberalization and through the promotion of export oriented industrialization, the more vulnerable is the economy to external shocks. The most successful export-led industrializers have been most adversely affected by the fall in the rate of growth of manufactured exports. The crisis also impacted on countries already facing major economic problems prior to its onset, and in particular a number of countries were facing major problems in their manufacturing sectors – poor infrastructure, high import dependence, shortages of skilled labour, lack of competitiveness and limited indigenous technological capabilities, for example. Small and medium sized enterprises (SMEs) appear to have been hardest hit by the fall in credit availability. The macroeconomic impact of the crisis on the manufacturing sector is of significance because of the impact on prices (the interest rate, the nominal and real exchange rate and the real wage rate), the narrowing of policy space in a liberalized economy (the policy trilemma), and the need for new regulatory structures and institutions.

What stands out from the country case studies (as of mid-2009) is the lack of an imaginative and positive response to the impact of the crisis on the manufacturing sector. The paper reiterates the centrality of industrialization to development and the importance of productivity growth as the major determinant of competitiveness. It re-emphasises the necessity for a so-called offensive or pro-active strategic response at both the level of the enterprise and the government, and the need for the latter to deal effectively with recognised market failures and to create the capabilities,

institutions and incentives (to use the late Sanjaya Lall's terminology) to promote successful industrialization.

The paper summarises a number of UNIDO commissioned studies which examine the possibilities for so-called "green growth" and analyse the potential for the development of renewable energy, in particular the wind power industry, and the development of the organic recycling industry. There is no reason in principle why developing economies cannot pursue "green industrialization", by developing and using green technologies, creating new markets and creating a virtuous circle between environmental protection and economic growth.

1 Introduction

The global economic crisis of 2007–2010 has been unprecedented since the Great Depression of 1929-1932 (UNIDO/South Centre, 2009). The crisis originated in the US mortgage market and quickly spread to a number of other countries, including the UK, Spain and Ireland. By the time of the bankruptcy of Lehman Brothers in September 2008, the financial crisis had become a more general banking crisis which in turn rapidly impacted on the real economy and turned into a global recession.

This paper focuses on five key issues:

- What were the transmission mechanisms that spread the crisis to the developing world?
- What economic factors determined the initial impact of the crisis on individual developing countries?
- What is the impact of the crisis on the manufacturing sectors of affected countries?
- What policies have affected countries implemented to offset the adverse effects of the crisis?
- What lessons can be learned from the crisis and how can future industrial policy take these lessons into account?

2 Globalisation and the Financial Crisis

Globalisation is a multi-dimensional process of economic and structural transformation that has a variety of meanings and interpretations. It generally refers to both the increasing flows of capital, goods and resources and knowledge across national boundaries and to the emergence of a complementary set of organisational structures to manage the expanding network of international economic activity and transactions.

However defined, globalisation has led to the greater integration of national economies through trade liberalisation, financial sector deregulation and capital account liberalisation, and flows of Foreign direct investment (FDI) by transnational corporations (TNCs). Globalisation has opened up new opportunities to low and middle income countries, through improved market access, increased flows of FDI, often integrating them into global value chains (GVCs) or global production networks (GPNs) and accelerated technology transfer, both product and process technologies. Although not as significant as global capital mobility, the international migration of

labour has led to reciprocal flows of remittances which have become a major income source for many developing countries.

Increased economic interdependence between national economies leads inevitably to greater vulnerability to global economic shocks which are beyond the control of individual countries. Developing countries run the danger of becoming “locked in” to the business cycle, financial sector conditions and the vagaries of policy making in the larger, more powerful developed market (capitalist) economies and, many would argue, this growing integration of national economies has not been accompanied by the appropriate mechanisms and institutions of global economic governance that would correct imbalances, address market failures, anticipate disequilibria and co-ordinate and regulate international flows of goods, services and capital, both FDI and portfolio flows.

In the second half of 2007, the world economy began to face acute financial turmoil. It was becoming clear that serious losses were accruing in the United State’s sub-prime mortgage market and as a result of the fall in US house prices. The increase in mortgage defaults led to further corrections in housing prices, leading to further defaults, rising interest rates to cover bank losses and eventually to the insolvency of the lending institutions themselves. Much of the initial funding for mortgages had been obtained from the inter-bank money market and thus other financial institutions were compromised and failed, or had to be bailed out, leading to a liquidity and credit crunch in the inter-bank money markets. The development of an essentially unregulated ‘shadow banking system’ (the term used by Cable, 2010, Chapter 2, in an accessible, non-technical discussion of the evolution of the crisis) led to a loss of confidence, fuelled as the extent of toxicity of many assets became more widely known. Banks cut back on short term lending to those institutions or markets that were seen as excessively risky.

The sub-prime debacle was not confined to the US housing market since sub-prime mortgages were repackaged as structured credit products, such as collateralized debt obligations (CDOs) or special purpose vehicles (SPVs) or other innovative financial instruments, through multi-layered securitizations of underlying assets (Nissanke, 2009). These were traded globally through integrated but poorly regulated financial markets, and financial institutions opted for excessive risk-taking, with high leverage ratios. Cable (2009, Chapter 2) argues that the crisis was largely owing to non-traditional lending outside the banking system, centring on securitization: “Through securitization, loans once held on the books of banks were repackaged and sold. The scale and

complexity of this repackaging increased many times in the rapidly growing pool of debt-based products created by investment banks. The genius of securitization is also its central weakness. Debt is so widely and skilfully diffused that it becomes impossible to trace it. No one really owns the loans” (Cable, 2010, p.35). This in turn means that institutions find it difficult to determine what their assets are actually worth and how much has to be written down.

In March 2008, the US Federal Reserve Bank had to rescue Bear Stearns; in July 2008 the Federal Government had to support the Federal Home Loan Mortgage Corporation (‘Freddie Mac’) and the Federal National Mortgage Corporation (‘Fannie Mae’), judged to be ‘too big to fail’. In September 2008, the fourth-largest investment bank in the USA, Lehman Brothers, was allowed to go bankrupt, although the state choose to rescue the world’s largest insurance company, AIG, with an \$85 billion loan and effectively nationalised the company. Banks in a number of other countries, including the UK, Germany, Ireland and Switzerland revealed massive toxic debts, falling share prices, loss of confidence and further falls in lending.

The financial crisis rapidly spread to the real economy. The construction sector was affected first as new house building fell. The manufacturing sector saw falls in demand for commodities, particularly those purchased with loans, such as automobiles. With the growth in unemployment and increasing job insecurity, reductions in consumer spending led to falls in aggregate demand. Falls in business confidence and reduced access to credit may well have delayed investment, further accelerating the downward spiral leading to recession.

Governments in the developed market economies have intervened in a variety of ways, through measures aimed both at specific sectors or activities, to more general stimulus packages aimed at keeping financial institutions afloat, supporting enterprises in various productive sectors where deemed necessary and attempting to maintain consumer confidence and expenditure. Such measures have re-ignited a number of controversies relating to the role of the state. Should governments intervene as lender of last resort, to protect financial enterprises ‘too big to fail’ and risk moral hazard? Should the financial sector be radically restructured, separating retail banking from so-called ‘casino’ banking? Should the financial sector be more strictly and effectively regulated to lower the risk of a similar crisis happening again? How quickly, and in what ways, should governments begin to deal with the large budget deficits that have been incurred as a result of the rescue packages implemented? Is the recession now (March 2010) over, or does the risk of

a 'double dip' recession still remain if stimulus packages are reversed too soon and the private sector does not compensate with increased investment, output and employment?

To understand the origins and evolution of the crisis, and its impact on developing countries, we have to locate our analysis within a broader global context. Financial sector instability is largely, but not solely, the result of over two decades of liberalisation and deregulation which began in the 1980s under the Reagan and Thatcher administrations and which has been a fundamental component of the neo-liberal, market fundamentalist Washington Consensus since then. Global economic instability is in part related to the emergence of the huge US government budget and current account deficits, funded by the current account surplus and net capital export economies, namely China, other East and South East Asian current account surplus economies and the large net oil exporters.

A further source of global instability is the volatility of oil and commodity prices. Having reached record levels in April–June 2008, commodity prices fell sharply over the remainder of the year, especially oil, a number of metals (nickel, zinc and copper) and a number of foodstuffs (wheat, rice, vegetable oilseeds and tropical beverages) (Nissanke, 2009, p.25). Obviously the economic impact of commodity price fluctuations depends on the structure and composition of production and trade of individual developing countries. Net commodity exporters in general benefit from rising prices and suffer when prices decline. Economies that are heavily dependent on imported oil and foodstuffs, other things being equal, will benefit from falling commodity prices (Nissanke, 2009, discusses commodity price issues in greater detail).

3 The Impact of the Crisis on the Global Economy

The causes of the financial crisis are complex, and are not the prime concern of this paper, but we need to understand its recessionary impact on the global economy. Data on output, trade, employment and financial flows have improved (March 2011) but are still subject to revision. Thus, the discussion of the global impact must thus be qualified and data used cautiously.

According to the IMF (2010, 2011), world output grew by 3 per cent in 2008, fell by -0.6 per cent in 2009, and grew again by 5 per cent in 2010. It is projected to grow by 4.4 per cent in 2011 and 4.5 per cent in 2012; a clear sign for global recovery. For the advanced economies, output grew by 0.5 per cent in 2008, fell by -3.4 per cent in 2009, and grew by 3 per cent in 2010. It is

projected to grow by 2.5 and 2.5 per cent for the years 2011 and 2012, respectively. The difference between world output and advanced country output figures is largely accounted for by the Emerging and developing economies group of countries and Developing Asia (China, India, Asean-5 – Indonesia, Malaysia, the Philippines, Thailand and Viet Nam) in particular. The Developing Asia group of countries grew by 7.9 per cent in 2008, 7 per cent in 2009, and 9.3 per cent in 2010. It is projected to grow by 8.4 per cent in 2011 and 8.4 per cent in 2012; hence making it the powerhouse of the global recovery. The IMF (2011) presents upward revisions to the projections presented in IMF (2009, 2010), is optimistic about the strength of the global recovery in 2011 and 2012 and as indicated above, focuses the emerging and developing economies where “activity is expected to be relatively vigorous, largely driven by buoyant internal demand (IMF, 2010).” Furthermore, and most “notably, growth in sub-Saharan Africa – projected at 5.5 per cent in 2011 and 5.8 per cent in 2012- is expected to exceed growth in all other regions except developing Asia (IMF 2011).”

It was not until September 2008 that the impact of the financial crisis on international trade became evident (WTO, 2009). The rate of trade growth had already slowed from 6.4 per cent in 2007 to 2.1 per cent in 2008, but the 12.2 per cent contraction in 2009 was without precedent in recent history (WTO 2010). The full impact of the crisis was felt across all regions of the global economy by the fourth quarter of 2008, with Europe experiencing a fall of 16 per cent in the fourth quarter and Asia recording a fall of 5 per cent in exports in the same period. In the first quarter of 2009, there was a much steeper decline in merchandise trade, with falling commodity prices largely to blame (WTO, 2009). The IMF (2010, 2011) gives data for world trade volume (goods and services) for 2008, 2009 and 2010. World trade volume grew by 2.8 per cent in 2008, fell by -10.7 per cent in 2009 and grew by 12 per cent again in 2010. It is projected to grow by 7.1 per cent and 6.8 per cent for the years 2011 and 2012, respectively. For the Emerging and Developing Countries sub-group, imports fell by -8 per cent in 2009 and exports fell by -7.5 per cent for the same year. Growth recovered for 2010 by 13.8 per cent for imports and 12.8 per cent for exports.

World GDP and world merchandise exports move in tandem. The rate of growth in international trade is greater than the rate of growth of GDP (trade data count intermediate goods every time they cross a border while GDP data include value added only), but the same relationship holds when GDP or its rate of growth falls. The income elasticity of manufactured exports is greater than that for total merchandise exports. Therefore trade in manufactured exports responds more

than merchandise exports to changes in income. The WTO (2009) estimates average income elasticity for total merchandise exports of 1.7 for the period 1960-2008; for manufactured goods for the same period, the average income elasticity was 2.1. Other things being equal, countries more heavily dependent on manufactured goods exports should experience a greater fall in total exports than those economies less dependent on manufactured goods. Between 2007 and 2008, China experienced a fall of 9 percentage points in its exports; the figure for Chile was a fall of 17 percentage points. For Africa, on the other hand, exports rose by 10 percentage points over the period 2007-2008 (WTO, 2009).

As far as the impact of the crisis on employment is concerned, the latest ILO (2010, 2011) data indicate that the largest falls in employment were in the manufacturing sectors in all regions of the global economy, but were greater in the developed economies. In the latter group of economies, the fall in employment is estimated to be 6 million jobs, as opposed to approximately 2 million jobs lost in developing economies. There were also significant, but smaller, falls in employment in the construction and wholesale and retail trade sectors in all economies.

For selected economies, the ILO (2011, Annex 1, p.32) presents quarterly employment data for 2008 to 2009 and 2009 to 2010. For the manufacturing sector (Table 1 below) the quarterly comparisons show significant job losses for the period from 2008 to 2009. Comparing Q1 2009 to 2010 and Q2 2009 to 2010 shows a reduction in experienced job losses by -3.1% and -1.1% respectively, in sharp contrast to the average losses in 2008 to 2009 of -7.2%. The ILO (2010) notes that it expects employment to continue to fall even after the recession is formally over, that is, the recovery in economic activities and a positive rate of GDP growth will not initially be accompanied by growing employment opportunities.

Table 1 Manufacturing Employment, Selected Economies, Quarterly Change Q1-Q3 2008-2009

	<i>Average Change 2008 to 2009</i>	<i>Change Q1 2009 to 2010</i>	<i>Change Q2 2009 to 2010</i>
Change in Level of employment (in thousands)	-7,373.5	-3,011.3	-1,093.5
Percentage change	-7.2%	-3.1%	-1.1%

Source: ILO (2011), Annex 1, p. 32

As far as capital flows are concerned, UNCTAD (2010, 2011) estimates that global inflows of foreign direct investment (FDI) fell by 39 per cent from US\$1.7 trillion in 2008 to US\$1.1 trillion in 2009. Global FDI flows rose marginally by 1% and remained almost stagnant in 2010 at an estimated US\$1.1 trillion. For 2011, UNCTAD estimates FDI flows to be between US\$1.3 trillion and US\$ 1.5 trillion (UNCTAD 2011). Individual economy falls over this period varied widely, from -2.6 per cent in the case of China, to -66.6 per cent in the case of Malaysia and -56.6 per cent in the case of Morocco. All components of FDI – equity capital, reinvested earnings and other capital flows (mainly intra-company loans) - were affected by the economic downturn, but the decrease was especially marked for equity capital flows, which are most directly related to transnational corporations' longer-term investment strategies (UNCTAD, 2010).

Concerns have been expressed about the possible negative effects of the crisis on Official Development Assistance (ODA) flows to developing countries (as the governments of the major donor countries struggle to bring their public sector budget deficits under control). OECD DAC data (DCD-DAC, 2010, 2011) shows that ODA Net Disbursements (in US\$ million) rose from US\$ 107 102 million in 2007 to US\$126 656 million in 2008 to 131 272 in 2009, which marks an increase of 14.1 per cent from 2007 to 2008 and 3.6 per cent from 2008 to 2009, respectively. Over the period 2007-2008, ODA Commitments rose from US\$127 266 million to US\$153 400 million, an increase in real terms of 11.7 per cent. In the period from 2008 to 2009 ODA commitments rose to US\$ 163 435 by 6.5 per cent. This tells us nothing about the real value or the geographical distribution of ODA in the future, but a number of large donors (for example, the United Kingdom Government) have promised to “ring fence” ODA and meet the targets previously agreed.

Of more concern and relevance to this paper is the declining share of ODA that is directed at Industry, Mining and Construction. From an already low value of 8 per cent of total sector-allocable ODA in 1990, the share had fallen to approximately 2 per cent in 2007 (DCD-DAC, 2010, Table 1.3.7, p.13). On the same basis, the share of Agriculture, Forestry and Fishing fell from approximately 18 per cent in 1990 to approximately 7-8 per cent in 2007 (*ibid*). Given the need to develop the productive sectors of developing countries, both in general developmental terms and specifically in the aftermath of the economic crisis, a task that cannot be left solely to the private sector, if for no other reason than the existence of extensive market failures in developing countries, a reconsideration of donor country priorities would appear to be in order.

4 Transmission Mechanisms

From the discussion in Section 3 of the impact of the financial crisis on the global economy, the identification of transmission mechanisms by which the crisis rapidly spread to the developing world is fairly straightforward. There is general agreement that the major transmission mechanisms are:

- The impact of the crisis on the rate of growth of international trade;
- The impact of the crisis on oil and other commodity prices;
- The impact of the crisis on remittance flows to those economies dependent on such flows;
- The impact of the crisis on financial flows to developing countries, including portfolio capital flows, bank lending, trade finance and ODA;
- The impact of the crisis on foreign direct investment flows;
- As a consequence of all the above, we need also to consider the impact of the crisis on the macroeconomic environment and the balance of payments situation of the affected countries.

Before we attempt to evaluate the impact of the crisis specifically on the manufacturing sector of developing countries in more detail, we must attempt to identify those characteristics that make developing countries vulnerable to global shocks or conversely, give them a certain degree of protection, relatively speaking. The relevant characteristics are both structural and policy induced and they include:

- What can broadly be referred to as the level of development and the productive structure, specifically the extent and depth of industrialisation, of the individual economy;
- The state of the economy at the time of the impact of the crisis; was the economy growing? Was the macroeconomic environment stable (specifically, was the budget deficit under control? Was the current account deficit financed by stable and dependable capital inflows? Was the exchange rate stable and roughly in equilibrium? Was the price level relatively stable?);
- The dependence on, and commodity composition of international trade, will be largely determined by the first point; the extent to which the economy has followed the path of export-led industrialisation, with a focus on the export of low to medium technology, labour intensive manufactured goods, which are subject to intensive competition from other low-wage developing countries and vulnerable to protectionist barriers (for example, anti-dumping measures) in the major developed market economies, is of significance;

- The extent to, and the manner in which, the developing economy is integrated into the world economy through trade (as above) but also through capital flows, especially flows of FDI, and the extent to which the economy is specifically integrated into the global economy through global value chains or global production networks, which will make the economy very vulnerable to fluctuations in global demand;
- What can be broadly defined as the technological capacity of the economy will in large part determine its flexibility, that is its ability to respond to the crisis through the reallocation of productive resources, the development of new products and markets and the exploitation of new opportunities in, for example, the service sector;
- A very important policy-induced characteristic is the extent to which the economy has liberalised short term capital account transactions (portfolio capital flows) which, other things being equal and depending on the exchange rate regime in place, may introduce a high degree of instability to the macroeconomic environment and weaken the use of monetary policy as a counter cyclical instrument;
- The above characteristics, along with a number of key, non-economic variables (the developmental nature of the less developed country state, for example) determine the “policy space” (Wade, 2003) that the individual economy has available and can make use of. Clearly policy space is not completely absent, but membership of the World Trade Organization (WTO), Economic Partnership Agreements with the European Union (EU), and the aid “dependency” of the economy (a dependency on both bilateral and multilateral agencies) will all tend to narrow that space and restrict the policy options that the developing economy will have available.

The complexity of the interaction between these variables makes generalisation hazardous. Not all developing countries will have been equally, and in similar ways, affected by the global economic crisis, and it is quite possible that some of them will have been hardly affected at all.

The least developed countries (LDCs) are, in principle, the most vulnerable to external shocks, because of their relatively low levels of development and extensive and deep rooted poverty. Although they are not a homogenous group, the LDCs are marginal participants in international trade (from a global perspective), particularly as far as the trade in manufactured goods is concerned; they suffer from fundamental structural weaknesses, and balance of payments and fiscal constraints; they are highly indebted and aid dependent and because of their limited industrialisation, they are dependent on the production and export of primary commodities, with a

commodity composition of output and exports that in some cases has hardly changed over the past 50 years.

The boom in primary commodity prices of 2003-2008 led to higher rates of growth of GDP and manufacturing value added, along with increased savings and investment, in many LDCs. Unfortunately the boom was followed by a “bust”, with detrimental impacts on their long term development and industrialisation prospects. Fuel and food importing LDCs in particular suffered from both the boom and the bust, in the sense that the emergence of the global economic crisis occurred at the time they were facing high international prices of foodstuffs and fuel. However, although non-oil commodity prices fell by over 36 per cent from the peak to the trough, food prices did not fall as much as the prices of other commodities and have picked up faster after they reached their trough in December 2008 (UNIDO/South Centre, 2009).

Nissanke (2009) argues that it is the Asian economies, not the LDCs, which have been most vulnerable to the recessionary impact of the financial crisis, as global trade fell heavily in the fourth quarter of 2008, because of their heavy reliance on the production and export of manufactured goods, especially consumer durable such as automobiles, electronics and capital goods, as well as low technology commodities such as footwear and garments. But it is not only Asian economies that have been severely affected. Latin America (Mexico, Argentina, Brazil and Peru) and a number of transitional emerging economies in Eastern Europe have been severely affected.

The sectors experiencing the most severe contractions in output indicate that the effects of the crisis have been felt throughout a wide range of industrial activities, irrespective of their nature and size of operations. As argued already, there are obviously variations across countries, reflecting country-specific conditions, structural features and varying financial conditions and arrangements (the importance of FDI, the integration of the financial sector into global financial markets). For example, export industries specific to countries, such as the processing and preserving of fish and fish products or fruit and vegetables (Chile), textiles and leather products (Czech Republic) and electrical machinery and electrical products (Singapore) have all be severely affected by weakened export demand (Nissanke, 2009). But common patterns can also be identified. Motor vehicles and transport equipment, basic metals and steel, chemicals and chemical products, rubber products and construction materials appear in the list of affected sectors across most countries (Nissanke, 2009).

In many low income economies, remittances constitute a major source of income and a major credit item in the balance of payments accounts. In 2008, for example, remittances as a percentage of GDP reached over 27 per cent in the case of Lesotho, 18 per cent in the case of Haiti, and 17.8 per cent and 11 per cent in the cases of Nepal and Bangladesh respectively (UNIDO/South Centre, 2009). Countries in Central and South America are also highly dependent on remittances from family members living in the USA. By reducing employment, particularly of migrant workers who are often the first to be affected, the slowing down of growth in OECD economies will substantially reduce remittance flows. Remittance flows from oil-rich countries are also falling as output falls and new projects postponed. Remittance flows were predicted to fall by 20 per cent in 2009.

5 The Macroeconomic Impact of the Crisis

Although this paper focuses on the manufacturing sector, we have to examine the macroeconomic impact of the crisis because it is the macroeconomic policy environment that determines key prices – the exchange rate, the interest rate and the wage rate – that are important determinants of manufacturing sector performance and enterprise competitiveness. Macroeconomic performance, and the confidence (or lack of) that it generates, is also an important determinant of private sector investment in the economy which has important implications for growth of output, labour productivity and competitiveness in the future.

The two key *ex ante* macroeconomic constraints are the budget deficit and the current account deficit. *Ex post* of course, they must both be financed, but governments will find it increasingly difficult and costly to finance growing budget deficits, with higher interest rates and the possible crowding out of private investment. Many developing economy governments have implemented stimulus packages to maintain levels of economic activity. While mitigating the impact of the crisis, such measures are essentially short term and their size is constrained by what governments can borrow. Such programmes must eventually be phased out, and it is too early to judge how effective they have been.

With respect to the behaviour of the current account deficit during the recession, much will depend on the structure of production and trade and the nature of the integration of the individual economy into the global economy. Economies may be hit by a combination of falling export revenue (partially offset by lower imports if exported manufactured goods are dependent on

imported intermediate goods), lower inflows of remittances, less FDI and stagnant or falling ODA. A worsening balance of payments position may lead to a depreciation of the nominal exchange rate, depending on the exchange rate regime, but the fall in the nominal rate may be offset by rising domestic prices and the country experiences an appreciating real exchange rate, which other things being equal, will reduce the competitiveness of the export sector.

We have already noted the negative impact on employment of the crisis. Although there may well be a fall in employment in the manufacturing sector in the short run, the longer run problem relates to the employment elasticity of growth. That is, for any given growth rate of employment, the required growth rate of output is higher. Falling export growth rates, and reduced investment levels impact on the rate of growth of output, which is unlikely to be high enough to absorb both those already unemployed and new entrants to the labour force.

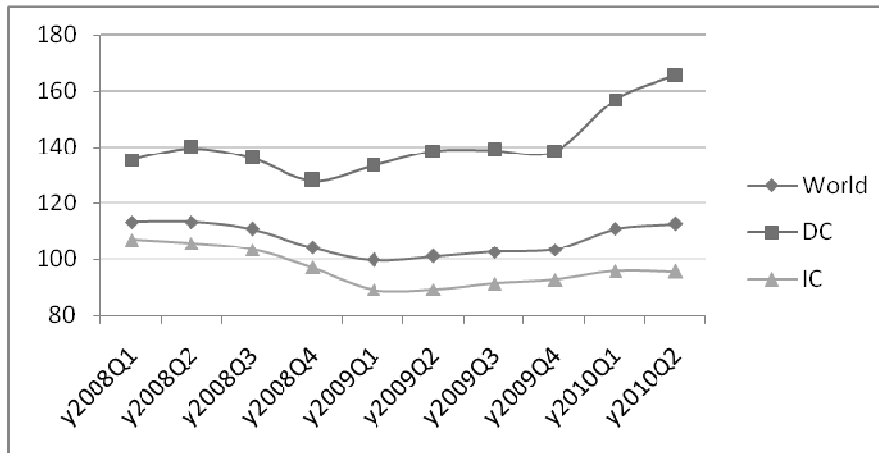
Falls in the rate of growth of employment will in turn impact on poverty. The World Bank (2010) estimated that an extra 64 million people could be trapped in poverty as economic growth slowed around the world, on top of the 130-155 million estimated to be pushed into poverty in 2008 because of rising food and fuel prices. It is estimated that 94 out of 116 developing countries will have experienced slow downs in economic growth. The IMF (2009) predicted that the global crisis would have a major impact on low-income countries, especially in sub-Saharan Africa. The IMF uses a concept of vulnerability that is based on a country's overall level of exposure (defined by a situation where the initial level of poverty was a problem before the crisis and where an adverse impact on economic growth is expected) to argue that the crisis is exposing households in virtually all developing countries to increased risks of poverty and hardship.

6 The Impact on the Manufacturing Sector: Overview

The growth of global manufacturing production slowed substantially in 2008, especially in the last quarter of the year. The rate of growth of China's industrial output decelerated in the last quarter of 2008 whereas manufacturing production in Argentina, India and Tunisia actually fell over the same period.

However, world manufacturing activity has been on the way of recovery since the first quarter of 2009, where production reached a minimum (see Figure 1).

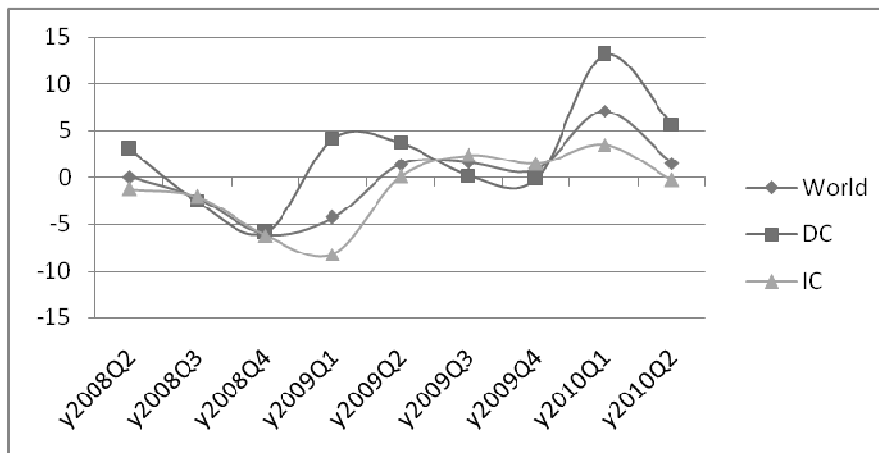
Figure 1: Quarterly IIP, World Manufacturing, base year 2005



Source: UNIDO (2011)

After moderate growth rates in the last three quarters of 2009, manufacturing production jumped 7.1 per cent in the first quarter of 2010 relative to the previous quarter, led by industrializing countries (see Figure 2). However, preliminary estimates show signs of deceleration of growth in the second quarter of 2010 at 1.6 per cent relative to the first quarter. Production levels in the first two quarters of 2010 are however 11 per cent higher relative to the same quarters in 2009, revealing some regain of vitality in the manufacturing sector.

Figure 2: Growth rate of manufacturing production



Source: UNIDO (2011)

While the global economy, in particular manufacturing, has started to recover, figures in the second quarter of 2010 call for caution. This crisis has led to mass layoffs and a scale down of production in factories, and recovery is still too weak to curb unemployment rates (see ILO 2010,

2011 data). As a result, transfer payments such as welfare or unemployment benefits are on the rise while tax revenues are declining.

Industrializing countries have alternated periods of expansion and contraction of the manufacturing production. A decline in the last two quarters of 2008 was followed by positive growth in the first two quarters of 2009. Industrial production stagnated in the last two quarters of 2009 (0.2 and -0.2 per cent growth respectively), before rebounded in the beginning of 2010 with growth reaching 13.2 per cent relative to the previous quarter. However, the second quarter of 2010 is showing signs of slowdown as growth rate decreased to 5.6 per cent (all figure 2).

Industrialized countries have experienced positive growth rates since the beginning of 2009. In the first quarter of 2010, they recorded a growth rate of 3.5 per cent, but the second quarter revealed the feebleness of recovery as production growth turned negative at -0.3 per cent. The largest industrialized countries have experienced however positive growth rates in 2010. US manufacturing has expanded 1 and 1.2 per cent in the first and second quarters of 2010 respectively. Germany's industrial production increased 2.3 per cent in the first quarter of 2010, and at an accelerated pace in the second quarter at 5.9 per cent. The UK and France also registered growth for two consecutive quarters at 1.8 and 1.5 per cent in the first quarter, and 1.9 and 1 per cent in the second quarter. In Asia, Japan's production grew 8.3 per cent in the first quarter of 2010, but weakened in the second quarter at 0.5 per cent.

Among industrializing countries, it is China and India that are leading the manufacturing recovery, having grown 14.4 and 13.6 per cent respectively in the first quarter of 2010. Growth decelerated however to 7.3 in China in the second quarter of 2010. Brazil registered a higher growth rate in the first quarter relative to the second (6.9 and 1.2 respectively). Mexico's production stagnated in the first quarter, with 0.2 per cent growth but is showing more vitality in the second quarter with growth at 3.7 per cent. After two quarters of growth in the second half of 2009, industrial production contracted in South Africa by 4.5 and 3.8 per cent in 2010 first and second quarters. Likewise, Tunisia's industrial production growth has been in the negative for the first two quarters of 2010.

Manufacturing industry investment in some developing countries fell abruptly towards the end of 2008. The Argentine case study (Sercovich, 2009) reports the postponement of a US\$524 million investment in the steel sector in November 2008 because the investor saw a drop of 75 per cent in

its New York stock market value. In Cameroon (Monkam, 2009), investment projects in cobalt, copper and aluminium have been deferred until market conditions improve. In China (Dexiang, 2009), export-oriented as well as recycling industries are facing cuts in investment. Monthly manufacturing FDI halved in China, to an average of US\$5.9 billion in December 2008. Banks are contributing further to the reduction in manufacturing investment by extending loan evaluation periods and demanding more stringent financial analysis and guarantees. One of the paradoxes of falling property prices is that companies can provide less collateral.

In countries such as Tanzania (Wangwe and Charle, 2009), Tunisia (Amara, 2009) and Viet Nam (Vu Thanh Tu Anh, 2009), investment was still growing in 2007– 2008. Foreign investment in manufacturing in Tanzania more than trebled between 2007-2008, with the number of projects increasing by more than 15 per cent. Tunisia had a 32 per cent increase in manufacturing FDI in 2008. Projections for manufacturing investment in developing countries for 2009 are not available and the trend is unclear. It should be noted however that current investment was based on decisions made some time ago, and that underlying economic conditions have changed dramatically since then.

The operating environment for most manufacturing firms in most industrial sectors is becoming more restricted. Levels of unused installed capacity are high, with some companies in Cameroon using administrative and maintenance workers to keep factories open until demand recovers. There is a danger that machinery and equipment will deteriorate if factories remain closed, and working capital tied up with increasing inventories of raw materials and/or final products. Energy prices are rising in a number of countries, including Argentina, China and Vietnam, as governments attempt to reduce transport and electricity subsidies. Business finance conditions are becoming more difficult. Trade credit has become scarcer and some foreign suppliers are requesting advance payment for inputs and spare parts, while foreign and domestic suppliers want to reduce account payment deadlines from between 90 and 180 days to 30 days.

Enterprises in many countries have to cut costs to survive. The range of cost cutting measures includes: fewer working hours, lay-offs and temporary plant closures; increasing efficiency including better use of raw materials and energy and improving quality of output; reducing subcontracting and increasing production in-house; cut backs in overheads and non-urgent expenditures. A more novel approach has been to diversify output. Rather than closing down, some companies are seeking new productive activities. A Cameroonian mechanical engineering

company, for example, has switched from the production of truck tanks and bodies to barges, piping and steel plants. Indian auto-component manufacturers are shifting to the production of oil, gas and railway equipment or manufacturing agro-engines and electrical appliances. In some cases, product diversification is accompanied by market diversification.

Small and medium sized enterprises (SMEs) linked to the export sector appear to be bearing the brunt of the crisis. Firms with access to credit and good foreign sources of funding are better able to survive the crisis. Large domestic and foreign enterprises, with good overseas linkages, often in Original Equipment Manufacture (OEM) relationships, are internalizing production and reducing sub-contracting to other enterprises and SMEs. Companies have increasingly turned towards the domestic market, either attempting to identify new market niches or developing repair and maintenance functions. Failure to obtain credit, especially for SMEs, remains a major problem.

From a UNIDO sample of countries, it is clear that the crisis has impacted most severely on export-oriented manufacturing industries. Clothing and textiles, leather and footwear, timber and furniture, steel and aluminium, transport equipment and electronics have all had the largest falls in output in a number of countries, including Argentina, Cameroon, China, India, Nicaragua, Tanzania, Tunisia and Viet Nam. The steel and aluminium industries have suffered from reductions in construction and the demand for automobiles from developed economies. The fall in demand for metallurgical products has had a negative impact on the price of metals such as iron, bauxite and copper.

6.1 Textiles and Garments

The textiles and garments (T&G) sector has been particularly hard hit by the crisis. The global crisis hit the sector at a time when it was already in the throes of a massive readjustment (Thoburn, 2009), following the abolition of the Multi-Fibre Arrangement (MFA)/ the Agreement on Textiles and Clothing (ATC) in 2005. With the abolition of MFA export quotas, it was widely predicted that China would be the major beneficiary, at the expense of other producers. China's share of world textiles exports rose from 10.3 per cent in 2000 to 23.5 per cent in 2007, and from 18.2 per cent to 33.4 per cent for garments over the same period (Thoburn, 2009). India's share of world garments exports fell between 2000 and 2007 and its share of the world textiles market rose only marginally compared to China's significant rise. Some other Asian economies, for example,

Viet Nam, Bangladesh and Cambodia were doing well in particular export markets prior to the start of the recession (Thoburn, 2009).

Thoburn (2009) analyses T&G import data for the USA, EU-27 and Japan. For the USA, there was a drop in total import value of 3-4 per cent for 2007-2008, with a more marked fall for the period May 2008 to May 2009, with falls in unit values. Taking only the five months to May 2009, compared to the same period in 2008, garment imports fell by 12 per cent and textiles by 20 per cent in total import value. For the EU-27, the recession's impact on imports appears to have been experienced later than in the USA, with significant falls for nearly all items in terms of the four months to April 2009 compared to April 2008. For Japan, it is clear that the recession was already biting in 2008 and continued into the first six months of 2009. There were falls in unit values for almost all major suppliers in 2008, generally worsening into 2009.

The trends shown by the USA and EU import statistics indicate that Mexico and Turkey have lost out in competition with China, and China has maintained its dominant position in the Japanese apparel market. But there have been factory closures and loss of jobs in China, with the return of workers from urban to rural areas and women and unskilled workers have been particularly affected by rising unemployment. India has suffered from falls in export revenue during the recession and half a million jobs have been lost in India's export industries (gems and jewellery, automobiles and textiles). Cambodia has lost jobs in garments and Viet Nam has suffered a slowdown in its rate of T&G export growth. Even though Bangladesh raised its T&G exports by 15.4 per cent in the fiscal year to June 2009, there are reports of job losses in the recession (Thoburn, 2009).

Two case studies – Cambodia and Lao People's Democratic Republic (Lao PDR or Laos) (Rasiah, 2009) and Bangladesh (Sodhi, 2009) – illustrate the specificity of the impact of the crisis on the sector. For Cambodia and Lao PDR, the abolition of the MFA in 2005 and the preferential access agreements made available under the Generalised System of Preferences (GSP), the Bilateral Trading Arrangements with the USA introduced in 1999 (the Technical Agreement on Textiles and Apparel – TATA), and the “everything but arms” clause introduced by the EU in 2001, opened up opportunities for export oriented, quota utilising FDI and the development of local subcontractors in the garments sector. Garment manufacturing was spearheaded by foreign firms, with garment exports peaking in 2007. FDI in both countries peaked in the mid-1990s and again in 2007. FDI fell in 2008 with a further decline reported for 2009 (Rasiah, 2009). A

contraction in exports started in late – 2008. The nominal contraction in exports over the period 2007-09 was 41 per cent for Cambodia and 66 per cent for Lao PDR. The impact of the recession led to falling GDP growth in 2009. Garments continue to dominate total exports in Cambodia, although they are expected to decline proportionately in 2009. Garments are less important as a proportion of total exports in Lao PDR. Employment in the garments sectors peaked in 2007 (297,000 in Cambodia and 79, 000 in Lao PDR) and fell in 2008 to 283,000 and 25,000 respectively. Further falls were predicted for 2009 (Rasiah, 2009).

Garment firms in Cambodia and Lao PDR are engaged in the lowest end of the value added chain, with the prime operations being cut, make and trim (CMT). Fabrics are mainly imported and constituted between 70-80 per cent of production costs in the two countries, and the majority of garment producers sew garments from imported woven and knitted fabric. Poor logistics, poor infrastructural facilities, long lead times (the time between placement of orders and the delivery of orders by contract producers), little or no R&D or adaptive engineering, low skill intensity of labour, little investment in training, the use of second hand imported machinery and low levels of process technology intensity (machinery and equipment, layouts, inventory and control techniques and firm organization) taken together imply a low wage, low technology, footloose sector which will find it difficult to move up the value chain. Rasiah (2009) notes that “...it can be seen that rapid growth in garment-related FDI inflows, employment and exports has been accompanied by only slow development of capabilities in Cambodia and Lao PDR. Cambodia has strengthened governance mechanism to stimulate deepening....In addition to a lack of rooting policies, the small labour force and landlocked problems have imposed natural limits to further expansion in the garment industry in Lao PDR”.

Bangladesh, alone among the Asia garment exporters, experienced an increase in export growth of 15 per cent over the period 2008-09, although there was negative growth for exports in July-August 2009 (Sodhi, 2009). Although Bangladeshi producers are price competitive in certain types of garments (for example T shirts and Men’s and Boy’s suits and trousers), they are facing competition from lower cost producers for other garments, for example, Viet Nam (Men’s and Boy’s shirts). The industry also faces problems caused by acute power shortages and rising costs of production.

The textiles and garments sector has developed over the past two decades in Bangladesh and is the largest sub-sector of the manufacturing sector, contributes 10 per cent of GDP, 40 per cent of

manufacturing value added, 80 per cent of export earnings and employs 5.5 million people, of whom 80 per cent are women. About 60 per cent of garment exports go to the EU and 30 per cent go to the USA, a very high degree of market concentration. The country has preferential market access to the EU 27, Canada, Australia and Japan. The sector is well integrated, and has made significant investments in spinning, weaving, knitting and processing to increase local value added, improve quality and reduce lead times. Backward linkages have also enabled the sector to upgrade its entrepreneurial and technical skills, and the sector has created a niche market in knitted products which have become the backbone of garments exports (Sodhi, 2009).

Sodhi (2009) argues that the industry has competed successfully on the basis of low costs (labour and energy) to focus on low price segments of the market, but it is obviously vulnerable to lower cost suppliers (Viet Nam and Cambodia, for example). The industry has expressed concern over the impact of the crisis highlighting in particular pressure on prices in both the primary textile sector and knitwear; increased competition from India and Pakistan in cotton yarn, undermining spinning mills in Bangladesh; changes in EU rules of origin under the GSP scheme which may well impact adversely on the primary textile sector (spinning, weaving and knitting). The Government proposed a stimulus package in June 2009, including assistance to exporters, emphasised the importance of boosting both domestic and regional demand, rescheduling of loan repayments, a cap on interest rates charged to exporters and announced steps to deal with the power crisis.

6.2 The Automotive Industry

The automobile industry epitomizes the impact of the crisis on the consumer durable goods sector, in both developed and developing countries. Falling demand in the developed market economies, despite the substantial assistance given to the industry by governments (scrappage schemes for the replacement of older vehicles and direct financial assistance to companies) has led to job losses and some plant closures. But the impact of the crisis cannot be understood fully without some recognition of the changes that have been occurring in the global automotive sector over the past two decades and the situation in the sector at the time of the impact.

Abe (2009) identifies six critical trends which were the direct products of globalisation: (1) competition among global value chains for productivity improvement; (2) a reduced number of independent automobile assemblers; (3) the advancement of Asian automobile assemblers; (4) the emergence of new Asian markets such as China and India; (5) the growth of large, global

automotive parts suppliers; (6) competition over research and development for environmentally friendly and fuel efficient vehicles. Global value chains (GVCs) or global production networks (GPNs) have been developed aggressively and the optimization of the value chain to compete with other value chains is a key strategy for success.

The automobile industry is essentially an assembly industry and the industry's significance lies in part both in its scale and its linkages to many other manufacturing industries and services. Competitive bidding for investment in this industry is especially prevalent (Dicken, 2007, Chapter Ten). At the onset of the crisis the automotive industry was characterised by complex and geographically extensive GPNs, in part the result of increased trade liberalisation and capital mobility, intensive competition, excess capacity, and close relationships with national governments (in Dicken's words (2007, p.315), it is one of the most "politicized" of industries). What are the likely implications of these characteristics for the manner in which the crisis has impacted on the automotive sector? In the first place, most governments are unwilling to see the disappearance or significant downsizing of national assemblers, not least because of the implications for employment, both direct and indirect. But given the globalized nature of the industry, governments rarely have any direct control over the specific parts of the GPN that may be located within their national boundaries. The sector is also very vulnerable to changes in market demand and has been hard hit by the present crisis (Abe, 2009).

Because of the decline in global demand (reflected in a fall in global vehicle production from 73.2 million units in 2007 to 70.53 million units in 2008 – a 3.6 per cent drop – with a possible 20 per cent drop predicted for 2009 (Abe, 2009), exports of vehicles have fallen, but not uniformly among major producers. Japan and the Republic of Korea (although Hyundai has maintained market share by improving quality and design and a low pricing strategy) have been affected because of their large export capacities (as have, to a lesser extent, India, Thailand and Turkey). Although domestic market demand has also fallen in developing country producers, the fall has been less severe, although both assemblers and auto parts suppliers in the Asian region have faced severe cost cutting pressures (Abe, 2009).

What is the possible future for the global automotive industry? Abe (2009) suggests three key issues, all of which have profound implications for national industrial strategies. First, over-capacity in assembly activities is likely to lead to mergers and strategic alliances, creating "mega" automotive assemblers which are likely to dominate major markets in the foreseeable future.

Automotive part suppliers will have to transform themselves into global enterprises serving “mega” assemblers worldwide. Second, five major markets, comprising three traditional production hubs (Europe, North East Asia – Japan and Korea – and North America) and two emerging economies in Asia – China and India – will emerge linked by a web of GVCs. China and India have large domestic markets and currently low automobile penetration rates, and domestic markets are expected to grow. Automobile assemblers in both China and India aim to develop national brands into global brands and plan to increase their exports both within and outside the region. Third, the countries/companies that first develop environmentally friendly and fuel efficient automobiles are expected to dominate future global automotive markets, leading to further structural changes in the sector.

A case study of Thailand’s automotive sector (Haraguchi, 2009) highlights some of the issues discussed above. Thailand’s automotive sector was hit hard by the 1997 Asian financial crisis, with sales in 1998 falling to one third of their 1996 level. The largely domestic market oriented, protected sector was forced to enter into export markets and become more competitive if it was to survive. The Thai Government liberalised investment regulations to allow foreign majority ownership of joint ventures, and the devaluation of the baht increased FDI inflows. It took five years, however, for production to reach its pre-crisis level (Haraguchi, 2009). By 2007, the volume of exports exceeded domestic sales for the first time, and the difference between exports and domestic sales continued to increase in 2008. Exports began to decline on a year on year basis in November 2008. As of July 2009, the industry’s production target for 2009 was 68 per cent of the 2008 level. Domestic sales in 2008 were already lower than in 2007, before the global crisis hit the Thai economy. Poor domestic sales performance in 2008 relative to 2007 was thus likely to be caused by factors other than the global crisis, for example political instability and falling consumer confidence. The impact of the crisis on domestic sales thus seems to have been lagged and became more noticeable in the first quarter of 2009.

Within the domestic market, the impact was greater on commercial vehicle sales than passenger car sales. Pick-up trucks are multi-purpose vehicles (carrying both people and goods, especially in rural areas) and with tax incentives to purchase them, they are cheaper than passenger vehicles (Haraguchi, 2009). The sales of pick-ups have thus been more adversely affected by rising unemployment, shorter working hours, falling incomes and tightening of credit availability. The impact of the crisis on passenger car sales was negligible however, the explanation being that the market for these vehicles consisted mainly of the wealthy urban population, not much affected by

the crisis. Although difficult to quantify, the impact of income distribution on levels and patterns of demand should not be ignored.

An important lesson to be drawn from a comparison of the two crises is that whereas the 1997 Asian financial crisis devastated Thai automotive firms and led to the rapid increase in FDI and the promotion of exports, the 2008 crisis has hit foreign firms harder than Thai firms due to the dominance of the former in export activities which had grown rapidly since 1998. This change in market orientation has made the Thai automotive industry highly vulnerable to external shocks and has made it one of the worst hit industries in Thailand. During the first six months of 2009, exports and domestic sales had fallen by 40 per cent and 25 per cent respectively, compared to the same period in 2008, with an estimated 100,000 jobs lost (one third of industry employment) during the crisis. The impact on supplier industries and service providers is also likely to be severe, given the extent and depth of backward linkages (Haraguchi, 2009, estimates a high, above industrial sector average for motor vehicles) with other sectors.

UNIDO research shows that the “Motor vehicles, trailers, semi-trailers” sector has been recovering relatively well. Since the second quarter of 2009, this sector has grown 6.2 per cent quarterly up to the second quarter of 2010. This industry benefited from stimulus packages in all major industrialized countries. The US included a new car tax credit in their stimulus package. Several countries including Austria, France, Germany or Italy put into place scrapping bonus programs for old fuel-inefficient vehicles, which helped boost small car sales. The sector also receives massive support from governments to make strategic investments for more efficient and cleaner vehicles.

6.3 Agro-Industries

The agro-industrial sector is defined as a subset of the manufacturing sector that processes raw materials and intermediate products derived from agriculture, fisheries and forestry. It forms part of the broader concept of agribusiness that includes suppliers of inputs to those subsectors and distributors of food and non-food outputs from agro-industry (Henson and Cranfield, 2009). The demand for food and agricultural products is changing in unprecedented ways, and the nature and extent of this changing structure of agrifood demand offers opportunities for diversification and value addition in agriculture, especially in developing countries (Da Silva and Baker, 2009), in terms of overall industrialization and economic development, export promotion and food safety and quality. Shifts in consumption patterns in developed economies offer opportunities for higher

value exports. Examples include year-round demand for fresh and semi-processed fruits and vegetables, for which developing countries have an agro-climatic advantage, and chilled and frozen fish and fishery products (Henson and Cranfield, 2009).

Three UNIDO sector/country case studies attempt to evaluate the impact of the global crisis on this broad sector – the fish industry in Uganda and Tanzania (Bagumire, 2009), the Ethiopian dairy industry (Haile, 2009) and the fruit and vegetables sector in Bhutan and Nepal (Kakra and Bhattacharjee). None of these sectors is closely integrated into global supply chains and it is difficult to separate out the impact of the global crisis from ongoing domestic problems and constraints. Nevertheless the case studies point to issues that will have to be confronted in post-crisis development strategies.

In the Ugandan and Tanzanian fish sectors, the crisis has exacerbated an already difficult situation in the industry (Bagumire, 2009). Shortages of raw material fish (declining fish stocks) have led to the underutilisation of installed capacity; high costs of fishing inputs (fuel, fishing nets, motor boat engines), high processing costs (high energy and skilled labour costs) and the emergence of multinational intermediaries who allegedly reduce the profit margins of fish exports, have added to the industry's problems. For Uganda, there was a slight fall in the value of exports in 2008 and a larger fall in volume. For Tanzania, there was a slight increase in the value of exports in 2008, but a fall in volume. Increased competition from, and substitution by European consumers of, lower cost fish (*Pangasius*) from Asia, severe transport constraints in Uganda and problems in Tanzania of managing its coastal resources, are all factors that indicate an industry characterized by severe problems, irrespective of the state of the global economy.

In the case of the Ethiopian dairy industry (Haile, 2009) it is concluded that there is no direct link between the global crisis and the performance of the sector (insignificant exports of milk or milk products). The impact of the crisis is largely on the macro economy, via an overall fall in exports, a fall in foreign currency reserves and the subsequent rationing of foreign currency, resulting in shortages of imported packing materials, other inputs (for animal feed processing) and higher imported machinery costs. There is evidence of some dairy farms closing.

Nepal, at least so far, has been little affected directly by the global crisis (Kakra and Bhattacharjee, 2009), owing in part to its limited integration into the global economy, especially its underdeveloped financial markets which are not well connected to international markets, high

remittance inflows and availability of foreign aid. It is a low income economy which has undergone limited structural change, has low productivity levels in the fruit and vegetables sector and limited investment in food processing activities. India is Nepal's main trading partner.

Nepal's geographical location offers opportunities for the development of competitive, niche market products (seed production and organic fruit and vegetables) as well as conventional fruit and vegetables, for export to the regional market. But the unresolved structural weaknesses of the agricultural sector have led to limited growth and vulnerability to food crises. Nepal has become increasingly dependent on food imports, making it vulnerable to external shocks and imported inflationary pressures.

Bhutan is similar to Nepal insofar as its limited integration into the global economy has ameliorated the impact of the global crisis on its economy, although it has been affected by a fall in tourism. Bhutan is not a large exporter of fruit and vegetables and agro-processing is limited. According to Kakra and Bhattacharjee (2009) Bhutan has suffered a reduction in exports of steel to India, owing to a fall in prices and the recession in the Indian consumer durables sector. However, it exports hydro-electric power to India and its low cost power supply gives it potential advantages in power intensive activities (mineral processing and the greenhouse cultivation of exotic vegetables).

7 Policy Responses to the Crisis: Overview

7.1 Government Policy Responses

The response of governments to the impact of the crisis on their economies depends in large part on their vulnerability to external shocks, their degree of integration into the global economy, especially via trade and financial flows, and the specific nature of the transmission mechanisms that determine the magnitude of the impact on each individual economy. A number of countries embarked fairly rapidly on their own stimulus packages, including Argentina, Bangladesh, Brazil, Chile, China, Indonesia, Malaysia, Mexico, Nigeria, South Africa, Thailand and Viet Nam. Other countries – Cameroon, India and Tunisia, for example – have also prepared for more substantive policy intervention. A number of countries have approached the International Monetary Fund (IMF) for assistance.

Resembling similar policy measures in developed market economies, governments in developing countries have focused on four sets of measures viz: macroeconomic policy, financial policy, trade policy and industrial policy. Policy interventions are determined by both resource availabilities and the technical competence and ideology of the governments concerned.

Macroeconomic policy is characterized by a combination of fiscal and monetary policy interventions. Tax-related measures include export tax rebates, temporary custom duty and value added tax exemptions to reduce input costs in industries where there is no local production and cuts in corporate tax and social contributions. Expenditure-related measures include increasing expenditure on infrastructure. With respect to monetary policy, cuts in interest rates and reductions in reserve ratios for commercial banks have been used in an attempt to increase liquidity in financial markets.

Financial policy has essentially been aimed at rescuing distressed financial institutions. On the assets side, policies have involved governments buying so-called toxic assets. On the liabilities side, the provision of additional liquidity, expanding deposit protection schemes and the recapitalization of banks have all been implemented. Tanzania, for example, has introduced early warning systems and continuous surveillance mechanisms to ensure capital adequacy, liquidity and deposit ratios, as well as interbank transactions. Argentina and Bangladesh have introduced policies to maintain the flow of credit to SMEs. A number of countries, including Brazil, China and Bangladesh have significantly increased trade financing to exporters. Export credit lines and insurance facilities are being increased by regional and international development banks to ease difficulties in opening letters of credit.

Trade policy initiatives are taking place within WTO rules, although some concerns have been expressed about a return to protectionism. India has raised tariffs on some steel products. Ecuador has increased tariffs between 5 and 20 per cent on 940 products. Ukraine has raised import duties across the board by 13 per cent and Russia has introduced a 5 per cent increase in tariffs on automobiles less than five years old. While there is a general trend to increase tariffs and such increases appear to have been kept within WTO-agreed boundaries, it is possible that the measures taken by some countries may provoke retaliatory actions in the future. Non-tariff measures include restrictions of some imports of steel products (India), import licensing requirements (Argentina), the concentration of imports on a few entry points (Indonesia) and higher sanitary requirements (Russia).

Industrial policy measures, mainly confined to the most affected developed market economies, largely consist of the provision of state aid to ailing industries (automobile assembly, for example). In developing countries, industrial policy measures have been more limited but include Argentina's stimulus policy for the automobile industry, as well as administrative limitations on the import of automobile parts, televisions, clothing and textiles and shoes. China has reduced sales tax on purchases of certain types of automobiles, extending government loans to automobile companies and is promoting the development of less polluting cars. As of April, 2010, it is too early to evaluate the effectiveness of any of these policy measures. But we can attempt to identify the conditions that must be met if they are to have a chance of success.

First, it is considered essential to maintain exports of manufactured goods from developing to developed economies. This will maintain output, employment and foreign exchange earnings in developing countries, and because of the high import intensity of manufactured goods exports (especially in global value chains), this helps maintain exports from the developed economy. Lower cost commodities from the developing world also keeps price rises under control and encourages the necessary adjustment in the developed economy, moving resources from less to more productive activities. Protectionism is an answer neither to the problems of developed or less developed countries.

Second, fiscal stimulus packages should ideally be internationally, regionally and locally coordinated, so that they complement, rather than substitute for one another. This also involves the harmonisation of policy at a number of other levels – avoiding competitive devaluations and the abuse of trade subsidies and distortions of financial flows. The timing, magnitude and nature of interventions should be preferably synchronized to maximise their impact.

Three, in some countries, foreign demand must be complemented by the stimulation of domestic demand. This involves both greater investment in infrastructure but also the stimulation of domestic consumption. As long as there is no balance of payments constraint, as in the case of China for example, there is no reason why a government cannot stimulate domestic demand and employment and not run into a constraint (with access to foreign exchange and surplus labour, the price level should remain relatively stable, other things being equal).

Fourth, interventions must be technically sound, with lessons learned from past experiences and those of other countries. Resources must be adequate to meet stated objectives.

Fifth, technically competent and experienced personnel must be available. Policy implementation and management, as well as market regulation, require sophisticated bureaucracies and human resources, information systems and administrative and institutional support to be effective. Above all, there must be consistent political commitment and agreement to implement effectively the policy package.

Sixth, in many countries social protection measures must be put in place to assist those most vulnerable to the negative impact of the crisis.

This is a brief overview of the conditions that must ideally be met to ensure some degree of success for the policy measures taken. There is no guarantee of success however, and indeed there is no unanimity among economists and policy advisors as to what should be done. The 2008-09 crisis has exposed deep rifts between Keynesian and essentially pre-Keynesian economists, between heterodox and orthodox, neo-classical economists and between those with very differing views of the appropriate or necessary role of the state in dealing with the crisis.

7.2 Corporate Responses

The strategic responses of enterprises in the developing country case studies varied significantly. A majority of enterprises, both large and small and foreign and domestically owned, reacted defensively. Essentially these enterprises see themselves as highly vulnerable to an unstable economic environment, both domestic and global. Recession is perceived as a major challenge and they feel powerless to act, apart from attempting to reduce costs, downsize the labour force, postpone or cut back investment and seek government support and protection. Examples from the case studies include: a foreign owned printing and publishing enterprise with offices in Cameroon that has, in effect, withdrawn all credit and financial facilities from subsidiaries and customers and is waiting for the market to improve; two Tanzanian textile enterprises that, apart from downsizing, have done little to identify new export markets; several state-owned Chinese textile enterprises that have done little to adjust rigid and bureaucratic decision-making processes in light of the rapidly changing global economic environment.

A second, smaller group of enterprises is reacting, by contrast to the above, offensively. They tend to see the recession as an opportunity for advance and have focused on identifying new markets, promoting innovation and upgrading. The Tunisian case study (Amara, 2009) reveals that 15 per cent of surveyed enterprises were reacting to the recession in export markets, by

increasing training of their labour force, deepening local trade linkages to reduce market volatility and the costs of imported inputs, expanding participation in trade fairs and developing new regional markets. There is evidence that some Chinese textile enterprises are continuing to invest in expanding productive capacity in the belief that their position will be stronger in the lower income markets of developed economies as the recession continues to bite. Indeed some Chinese businesses believe that developed market economic companies, as part of their own global strategy will accelerate the transfer of technology and more advanced production methods to China, in order to reduce costs and possibly develop new market opportunities.

It is difficult to generalise about how enterprises will or can react to the recession. Much depends on the policies pursued by governments to advance the development of the manufacturing sector, with respect to, for example, the provision of market information, assistance, both technical and financial in exploiting new market opportunities, policies to deal with market failures (education and training of labour, promotion of R&D) and the provision of adequate infrastructural facilities. We return to these issues in Section 10 below.

8 Country Case Studies

UNIDO commissioned a number of country case studies on the perceptions of, and responses, to the impact of the global financial crisis on the manufacturing sector. Data for 2008 are not yet generally available, and are certainly not available for 2009. The conclusions drawn from these brief country case studies are thus, of necessity, provisional in nature and may well be amended at a later date. But they allow us to draw out the salient features of the dynamics of the crisis and its impact on individual developing countries, taking into account, as noted above, the state and characteristics of the economy at the time the crisis hit. They also permit provisional lessons to be drawn concerning development policy in general and industrialisation strategies in particular.

8.1 Argentina

Sercovich (2009) notes that the three major Latin American economies (Argentina, Brazil and Mexico) all suffered steep and synchronised slowdowns in output growth in 4th quarter 2008, largely led by manufacturing. Growth of industrial output in Argentina, however, was already weakening in 4th quarter 2007, and the impact of the recession became more acute in 1st quarter 2009. Growth of GDP was expected to drop from 6.8 per cent in 2008 to zero or negative in 2009. Three main transmission channels are identified:

- Reductions in export demand – a fall in export quantities and a decline in the terms of trade;
- Capital flight and the recall of foreign and domestic export projects;
- Fall in business's and households propensity to borrow and consume, as a result of uncertainty and deteriorating expectations.

Given that the economy was already slowing down when the crisis hit, Sercovich (2009) identifies both endogenous and exogenous factors interacting with one another. The endogenous factors were: upward pressures in unit labour costs; accumulation of inventories; conflict between the government and agricultural sector with respect to export taxation and quotas and price policy; capital flight; a severe draught starting towards the end of 2008. Exogenous factors included: the fall in the terms of trade; decline in exports; fall in FDI inflows; recall of investment projects; decline in confidence. Exports declined in the 4th quarter 2008, especially to Brazil, Argentina's major export market. Automobiles, the key manufactured export to Brazil, had fallen by 60 per cent by January 2009, compared with the same month in 2008.

The growth in manufacturing activity began to slow down before October 2008, particularly in labour intensive sectors such as textiles and metal working, a decline exacerbated by capacity constraints (especially in petroleum refining and basic metal industries), shortages of skilled labour and increased import competition. From October 2008, manufacturing began to contract, especially in automobiles, steel and printing, and subsequently falls in base metals and textiles were experienced. In order to attempt to minimize the impact of the recession on employment, the government has subsidized the wage bills of a number of manufacturing enterprises, and is providing additional support in a number of other ways.

8.2 Cameroon

The sub-Saharan economies, although accounting for a small percentage of global trade, are not immune to the economic crisis. Cameroon is a relatively small, open economy, dependent on the export of a limited range of primary commodities – crude oil, wood and wood products, cocoa beans, coffee, raw cotton, raw rubber and raw aluminium [sic]. Export volumes and values fell in 2008 for a number of commodities including crude oil, coffee and raw cotton. Thus Cameroon is dependent on a limited number of primary commodity exports, with a high degree of market concentration, with the EU (especially Italy, Spain and France) and East Asia (China and Taiwan Province) dominating, and is highly vulnerable to short-run price fluctuations.

Cameroon has a poorly developed manufacturing sector. It is argued (Monkam, 2009) that the sector was already in recession prior to the impact of the crisis, with enterprises suffering from a variety of problems, including intensive competition from imports, unreliable power supply, poor infrastructural facilities, limited credit availability, especially for SMEs, and high unit costs. The crisis has affected three sub-sectors in particular: wood and wood products, construction materials, metallurgy and foundries and printing and publishing. It would appear that SMEs and companies serving the domestic market have been less adversely affected by the crisis than larger, export oriented companies which are finding access to export credit a particular problem.

8.3 People's Republic of China

Since the adoption of the so-called Open-Door Policy in 1979, China's economy has become closely integrated into the global economy and as a result is more vulnerable to fluctuations in global markets. The China case study (Dexiang and Rihong, 2009) argues that, as of October 2009, the crisis had already had a significant impact through slower economic growth, rising unemployment, falling FDI and declines in production and consumption. It is argued that non-financial, rather than financial, channels, have constituted the most important transmission mechanism, given the fall in global demand for Chinese manufactured goods exports. GDP growth fell from 13 per cent in 2007 to 9 per cent in 2008. Fourth quarter growth in 2008 was 6.8 per cent; GDP growth was 6.1 per cent in the first quarter of 2009 but had recovered slightly to 7.9 per cent in the second quarter of 2009 (Dexiang and Rihong, 2009).

The growth of the manufacturing sector began to slow down, especially from the third quarter of 2008 onwards, with heavy industry being most affected. The first two quarters of 2009 showed some recovery in growth rates but they were still lower than in the second half of 2008. A wide range of products suffered declines in growth rates including fax machines, air-conditioning equipment, metal cutting machines, portable electric tools, and household durable goods such as washing machines and refrigerators. Industries suffering least included equipment for mobile telecom bases, air pollution prevention equipment, feed processing machinery and packaging equipment. Comparing manufactured exports for February 2009 with January 2008, we see lower values for a range of products, including plastic products, textiles, clothes and accessories, footwear, colour TVs, automatic data processing equipment and mechanical and electrical products (Dexiang and Rihong, 2009).

Official data show that in February 2009, more than 20 million unemployed migrant workers returned to their rural homes. There were 24 million unemployed urban workers, with only an estimated nine million jobs available. The first half of 2009 however, showed an improvement in the urban job market, with over 5.6 million new jobs created in cities and towns.

Contrary to the experience of other countries, the China case study finds little evidence that the crisis has adversely affected fixed-asset investment in the manufacturing sector as a whole, although in some sub-sectors, the growth rate of fixed-asset investment had declined over the period January to November 2008 as compared to 2007. Sub-sectors particularly affected include textiles, furniture, petroleum, nuclear fuel processing, chemical fibres, telecommunication equipment and computers.

China experienced a fall in FDI inflows from US\$11.2 billion in January 2008 to US\$5.9 billion in December 2008. In the first half of 2009, the utilisation of FDI fell by 17.9 per cent as compared to the same period in 2008. Survey data indicate that the nature and extent of the impact of the crisis varies across sub-sectors depending on the nature of corporate ownership. State-owned and State-Holding Enterprises, foreign-invested enterprises and enterprises from Hong Kong, Macau and Taiwan Province all appear to have been more affected than domestically privately-owned, share-holding and co-operative enterprises.

Given the absolute size of the Chinese economy and its relative global importance, it was essential that the Chinese government responded to the onset of the crisis in an appropriate manner. It moved from a “prudent” fiscal policy to a “proactive” one, and from a “tight” monetary policy to a relatively “easy” one. The focus was on the expansion of domestic demand and infrastructure investment, and high national savings and foreign exchange reserves gave greater flexibility to government policy. The economic stimulus package of RMB 4,000 million appeared to be working, largely owing to the Government’s focus on the domestic economy, and signs of economic recovery were evident in the first half of 2009. A number of issues remain to be resolved however, including: depressed export markets and continued adverse impact on labour-intensive, export oriented activities, with subsequent downsizing and plant closures; failure of international trade negotiations and dangers of return to protectionism; continued capital outflows, and continued controversy over exchange rates. China still sees itself as a favourable location for FDI and anticipates manufacturing sector upgrading via western FDI as a

result of the recession and its adverse impact on the manufacturing sector in developed economies (Dexiang and Rihong, 2009).

8.4 Egypt

Egypt is a middle income country with a relatively diversified economy but heavily dependent on tourism, migrant labour remittances and Suez Canal revenues (all of which have fallen as a result of the recession), and the export of hydrocarbons. Since 2004, the government has pursued a set of pro-business policies supporting export-oriented manufacturing activities which have led to some diversification, both with respect to markets served and the commodity composition of exports. The manufacturing sector's share of GDP in current prices fell from 18.3 per cent in 2004 to 16.3 per cent in 2008 (although the sector grew in absolute terms) and accounted for 13.1 per cent of the labour force in 2007 (Kourouian, 2009).

Exports of manufactured goods were 30 per cent lower in the fourth quarter of 2008 as compared to the same period in 2007, with further falls in February 2009 compared to February 2008. Manufactured exports most affected included: ready-made garments, chemicals, furniture and processed foodstuffs. Increased import competition led to the cessation of domestic automobile glass production. Pressure on employment has been exacerbated by the return of an estimated half a million migrants. The Egyptian Government has responded to the crisis with a series of measures, including maintaining lending to SMEs, lower tariffs on a limited range of intermediate and capital goods imports and the selected use of export subsidies. The private sector has been campaigning for a devaluation of the Egyptian currency to restore competitiveness to manufactured exports.

8.5 India

The growth of the manufacturing sector was robust during the 1990s up until March 2008. All sub-sectors of manufacturing (basic goods, intermediate goods, capital goods and consumer goods) were adversely affected and by February 2009, none of them had returned to their peak of March 2008. As of February 2009, only capital goods showed a positive year-on-year change. There has been a fall in exports of manufactured goods over the period January 2008 – March 2009, affecting in particular textiles and garments, leather and leather goods, machines tools and other low value goods. Rising interest rates and an appreciating rupee are also important factors contributing to the slow down in growth of the manufacturing sector (Pradhan and Bhattacharya, 2009). As India has liberalised and has become more integrated into the global economy through

trade and capital movements, so it has become more vulnerable to global economic fluctuations. Inward FDI flows have remained positive (although at lower levels) throughout the recession, but portfolio flows turned negative in 2008-09 and there were other net capital outflows, putting pressure on the balance of payments.

In January 2009, the UNIDO India Office interviewed manufacturing companies participating in UNIDO projects to assess the impact of the global crisis. The cost cutting measures that the companies were adopting illustrate the seriousness of the crisis:

- One shift production, reduction in working days, no overtime;
- Temporary plant closures;
- Dismissal of contract workers and no new hiring;
- Implementation of total quality control measures;
- strict control of purchases and inventory levels;
- liquidation of unwanted inventories;
- cut backs on administrative costs.

A survey conducted by the Federation of Indian Chambers of Commerce and Industry (FICCI) (quoted in Pradhan and Bhattacharya, 2009) presents a more optimistic picture, with many sub-sectors reporting positive growth for the period April-June, 2009. But access to credit remained a problem for enterprises and the enterprises surveyed were generally sceptical about the effectiveness of the Government's stimulus packages.

8.6 Nicaragua

Nicaragua is a small, relatively poor, largely agricultural economy, with a manufacturing sector dominated by agro-industry, mining, wearing apparel and construction. Two thirds of manufacturing is in micro, small and medium sized enterprises. Capital markets are not well developed and the crisis has made itself felt through decreased inflows of FDI, declining commercial and domestic credit to the private sector and lower levels of remittances from the United States. Falling export volumes and values and lower income from tourism have also been important. The manufacturing sectors particularly affected are: construction and related activities (cement, paints and building blocks) and wearing apparel enterprises (Maquilas) in the Duty Free Zone. The decline in construction is largely owing to scarcity of credit and a fall in demand (including demand for holiday homes from overseas), whilst the fall in demand from the USA is largely responsible for the closure of garments factories.

For the first two months of 2009, compared to the same period in 2008, exports in general fell by 14.4 per cent; wearing apparel -7.8 per cent; sugar -75.9 per cent; beverages and rums -38.3 per cent; beef products -11.4 per cent (Amador, 2009). The closure of apparel factories has led to a significant rise in unemployment, with the open unemployment rates estimated to have risen from 7 per cent before the crisis to 10 per cent in 2009. The impact of the crisis is expected to lead to higher poverty, greater migration to urban areas, lower levels of public security (delinquency, crime, and prostitution) and poor health systems.

The Government has introduced a number of measures to offset the effects of the crisis, including subsidies on gasoline and lower transportation taxes, and as of 2009, was considering proposals to encourage the development of the private sector whilst maintaining sound macroeconomic policies (Amador, 2009).

8.7 Nigeria

The global economic crisis has impacted on the Nigerian economy through several channels, namely, the decline in oil prices, the fall in FDI inflows, net outflows of portfolio investment and falls in credit availability from the banking sector, that taken together, have led to a reduction in aggregate demand and a decline in foreign exchange reserves. The economy is dependent on oil and gas for 95 per cent of exports (2007), 85 per cent of government revenue and 52 per cent of GDP (Ogwumike, 2009). The fall in oil prices in 2008 led to foreign exchange shortages and a devaluation of the naira by about 24 per cent between December 2008 and March 2009.

The manufacturing sector is relatively small and dominated by the production of light consumer goods and is heavily import dependent (hence devaluation, other things being equal, raises the costs in naira of imported intermediate inputs). The sector accounts for less than 10 per cent of employment and over the past decade the sector has accounted for a falling share of commercial bank loans and with a declining share going to SMEs. Structural problems constraining the sector include inadequate infrastructure, erratic power supplies, high unit costs and limited demand for locally made consumer goods. Some improvements in performance have been witnessed since 2004 (when a number of reforms were introduced, including the reform of the capital market, a campaign against corruption and improvements in the business environment, together with the write off of a large proportion of external debt), but in general the manufacturing sector can be characterised as a sector beset by structural problems suffering from long term stagnation if not actual decline. Between 1991 and 2003, the share of manufacturing in GDP fell from about 6 per

cent to about 4 per cent. The crisis has thus hit an already weak, high cost, uncompetitive sector, with exports confined largely to the regional market.

The Manufacturing Association of Nigeria (MAN) is on record as arguing that the effects of the crisis are very severe (Ogwumike, 2009), citing poor infrastructure, high import costs, lack of credit and import liberalisation. The textile industries, and presumably other sub-sectors are facing serious problems owing to a “turbulent industrial climate characterised by decaying infrastructure, obsolete machinery, high power and labour costs, poor product quality, inadequate local raw materials supply, declining investment or disinvestment in the sector, smuggling and inconsistency in government fiscal policies, etc” (quoted in Ogwumike, 2009). It is difficult to see how the short-term response of the Government to the global crisis can bring any immediate improvement to this situation. As of 2009, there was no sign of the development of an evidence-based, strategic response to the crisis.

8.8 Tanzania

Tanzania’s limited integration into the global economy, improved economic policies, prudent financial practices and strengthened reserves, coupled with time lags in the transmission mechanism, had, as of early 2009, mitigated the effects of the crisis on the economy (Wangwe and Charle, 2009). But it is clear that the economy is not immune to the crisis and the possibility of declining foreign exchange earnings, reduced capital inflows and declining government revenues cannot be ruled out. Tanzania, as a highly aid dependent economy, is also vulnerable to reductions in ODA by the major donors.

As of 2007, the manufacturing sector accounted for 9.2 per cent of GDP and 15.4 per cent of total exports, employing just over 91,000 workers. The sector is vulnerable to competition from Chinese and Indian manufactured exports in both the domestic and third markets. There is some evidence that traditional export prices were declining in the last quarter of 2008, compared to the same quarter in 2007, with cotton particularly affected. Mineral prices appeared to be stable and exports of gold were performing well. Receipts from tourism fell in 2008 and were expected to decline further in 2009. The value of manufacturing projects registered with the Tanzania Investment Centre (TIC) rose in 2008, reflecting previous investment decisions. More recent information is not currently available.

A survey of the opinions of company managers as to the perceived impact of the crisis on their industry/company produces some surprising results. Only 30 per cent of respondents felt that the impact of the crisis on the industry was very strong or strong. With respect to the impact on the company however, 60 per cent of respondents felt it to be very strong or strong (Wangwe and Charle, 2009).

8.9 Tunisia

Tunisia is a small, open middle income economy with strong economic links to the EU which accounts for more than 70 per cent of Tunisia's exports, imports and FDI inflows (Amara, 2009). The main transmission mechanism for the crisis was through trade. With respect to the manufacturing sector, which accounts for 20 per cent of GDP (2008), exports fell by 11.5 per cent in November 2008 and 15.8 per cent in December 2008. All manufacturing sub-sectors have been affected by the crisis, although the most vulnerable to the slow down in external demand are the totally export-oriented sub-sectors, such as mechanical and electrical engineering and textiles and garments, representing 40 per cent of aggregate manufacturing production and 70 per cent of manufactured exports.

Manufacturing output fell in December 2008 by 6.44 per cent. Although unemployment data are not yet available, in November 2008 there was an increase of 26.9 per cent (compared to November 2007) of registrations at the government employment agency. FDI inflows fell in 2007 and rose in 2008; they fell again in January and February 2009, compared to the same period in 2008, although manufacturing FDI recorded an increase (Amara, 2009).

The manufacturing sector consists of two sub-sectors: on shore activities (serving both domestic and foreign markets) which employed approximately 233,000 workers, and the off shore (totally export-oriented) activities which employed about 245,000 (2008 data). Since 1997 there has been considerable diversification with the emergence of the mechanical and electrical (and electronic) industries (MEE). Four sub-sectors – food processing, chemical industries, textiles and garments and MEE account for 70 per cent of MVA, 88 per cent of manufactured exports and 80 per cent of industrial employment. Textiles and garments enjoy the advantage of close proximity to the EU market and the ability to satisfy small and time-sensitive orders. The MEE sub-sector largely supplies components to EU car assembly plants, but has opportunities for technological upgrading (the aeronautical components industry, for example). Food processing and products largely consist of traditional products with basic processing activities (olive oil, fish and sea foods

and dates). The chemical industry is dominated by phosphate-based fertilizers (of which Tunisia is an important global producer). The vulnerability of these export-oriented sub-sectors is illustrated by the declining trend in exports over the period November 2008 to March 2009. Enterprises, as elsewhere, are adopting either defensive or offensive strategies, the latter most often adopted by larger companies with the necessary financial and human resources. For many business leaders, the recession has forced a greater awareness of sourcing vulnerabilities and to consider supply chain management as a priority to secure sourcing and enhance price competitiveness (Amara, 2009).

Amara (2009) concludes that the crisis has revealed both the strengths and weaknesses of the Tunisian manufacturing sector. Its strengths are its ability to adapt to changing demands, its ability to react quickly and its flexibility. On the other side, its dependency on FDI for the provision of capital and technology, its weak value chain integration and labour-cost based competitiveness strategy are major weaknesses.

8.10 Ukraine

Ukraine is a so-called “emerging market” which since its transition to a market economy has increasingly integrated through trade and capital flows into the global economy. It has been hit hard by the global recession with an 8 per cent year on year drop in real GDP in the fourth quarter of 2008. The fall was predicted to continue in 2009 (a decline of 15 per cent), with some recovery in 2010 (Burakovsky et al, 2009). Ukraine’s pre-crisis economy was highly dependent upon international commodity and financial markets. The price dynamics of several commodities (wheat, steel, urea, crude oil and natural gas) have a major influence on the economy, and price changes have led to a significant terms of trade shock. The external shock aggravated a number of macroeconomic and structural vulnerabilities, and the limited ability of the state to take effective counter measures, thus adding to the severity of the crisis.

Commodity prices peaked in the first quarter of 2008, but over the period September 2008 to August 2009, the prices of steel and wheat fell by almost 30 per cent and the price of urea fell by 63 per cent (Burakovsky et al, 2009). It is estimated that the rate of growth of output fell by 25 per cent in 2009, with falls in the output of metallurgical industries and related sectors. The limited access to credit adversely impacted on the domestic housing market, leading to falls in the production of building materials and steel for the domestic market. Light industries, and the food sector in particular, contracted the least and were showing the earliest recovery. Investment goods

production contracted significantly, in part owing to falls in investment, and machine building and machinery production (vehicles in particular) fell spectacularly through end-2008 into the first half of 2009. Employment fell in all manufacturing sub-sectors, and especially in textiles and clothing, non-metallic mineral products, machinery and equipment. Even in the food sector, where the output fall was least, enterprise restructuring to increase efficiency and productivity also led to job losses. As of end-2007, the stock of FDI was concentrated in the manufacture of food products, beverages and tobacco, basic metals and fabricated metal products, and machinery. As of first quarter of 2009, the stock of FDI had fallen in the latter two sub-sectors. Net portfolio flows turned negative from the third quarter of 2008. The loss of business and consumer confidence in the last quarter of 2008 added to the crisis.

As in other countries, enterprises' responses to the crisis can be categorised as defensive and offensive. Defensive measures included attempts to cut costs, including layoffs, adjustments of wages and changed working conditions, although measures varied according to ownership and size of enterprise (large and private companies were more likely to undertake cost-cutting measures) and sub-sector (machine building and construction material enterprises most likely to attempt to cut costs). The least willing to cut costs were small scale and state owned enterprises. Offensive strategies largely focused on opportunities for diversification in both domestic and external markets. Large enterprises led the way in looking for new markets and new products, state owned forms were leaders in entering new markets, both domestic and foreign, and small and medium scale enterprises made efforts to seek new domestic markets.

Burakovsky et al (2009) also identify an adaptive strategy, which includes measures to reduce the volume of production and current and planned investments, accumulating wage and tax arrears and debts to suppliers and changing the mode of payments to suppliers. Such measures were less popular among enterprises than attempts at diversification but a significant proportion of enterprises survey chose to do nothing.

With respect to the Government's response to the crisis, a number of measures were aimed at simplifying regulatory procedures, facilitating the activities of SMEs and providing support to the mining, metallurgy and chemical industries through the regulation of prices charged by state monopolies (in rail transport and electricity) and the provision of credit through state banks. Other measures were aimed at the construction sector and in March 2009, temporary import surcharges were imposed on a wide range of products, subsequently limited to automobiles and

refrigerators only. A number of monetary and fiscal policies aimed at stabilising the exchange rate, curbing the run on banks and a variety of tax incentives aimed at supporting manufacturing enterprises were also implemented, but they were judged to be relatively weak in their impact and not properly co-ordinated by the differing authorities (Burakovsky et al, 2009).

8.11 Viet Nam

Viet Nam is an open economy integrated into the global economy through trade and the movement of capital, and has experienced rapid economic growth since the introduction of economic reforms (*doi moi*) in 1989. It has pursued a successful export-oriented industrialisation strategy, but manufactured exports consist largely of low technology, labour intensive commodities (textiles and garments, footwear) with a high degree of market concentration (the EU, the USA and Japan accounted for over 60 per cent of exports in 2007). Viet Nam experienced serious macroeconomic instability in 2008 with an inflation rate of 25.6 per cent that resulted in a significant appreciation of the real effective exchange rate. High food and energy prices in 2008, and large portfolio capital and other short-term capital inflows in 2007, which were not completely sterilized by the Viet Nam State Bank, were the major factors underlying the inflationary burst.

Exports fell in late-2008 and early-2009 by 15 per cent, largely as a result of falling crude oil prices (Vu Thanh Tu Anh, 2009). The four most important categories of exports – textiles and garments, footwear, seafood and wood products – comparing first quarter 2008 with first quarter 2009, either stagnated (textiles and garments) or fell significantly in the case of the other three categories. Given the high import-intensity of exports however, manufactured goods imports also fell, thus ameliorating the negative balance of payments effect of falling exports.

With respect to FDI, the registration of new projects in the first quarter of 2009 was US\$2.2 billion, down 70 per cent year on year. Tourist receipts fell in the fourth quarter of 2008 and overseas remittances were expected to fall in 2009 (Vu Thanh Tu Anh, 2009). Viet Nam's current account deficit, as a percentage of GDP was estimated at -11.8 per cent in 2008 and with a significant budget deficit, including off-budget expenditures, estimated to be between 10–12 per cent in 2009, the economy is in a relatively weak macroeconomic position. Unemployment has risen from 2.3 per cent in 2007 to 4.64 per cent in 2008. Other data suggested that in February, 2009, approximately 80,000 workers, mainly in the provinces, had lost their jobs. Other estimates suggest that this figure is too low (Vu Thanh Tu Anh, 2009).

In November 2008, the Vietnamese Government announced a stimulus package, consisting of increased expenditure on infrastructure and social housing, a variety of tax cuts, a four per cent interest rate subsidy on short-term loans for current expenditure and social safety net measures. As of late-2009, it would appear that Viet Nam had survived the worst of the crisis but would need to take action to deal with macroeconomic imbalances and seriously rethink its industrialisation strategy.

9 What Lessons can be Learned from the Case Studies?

We noted above that data are not yet available to allow a more complete analysis of the impact of the economic crisis on developing countries. Many data are, in any case, ambiguous and incomplete, for example, data on employment and unemployment where in many countries a large informal sector gives rise to problems of definition and enumeration. But we can draw some conclusions from the case studies, both with respect to the impact of the crisis and with respect to policy making post-crisis.

We highlight eight main points:

1. It should be clear that no country is immune from the effects of the crisis, even though the impact has varied, both between regions and between countries. Other things being equal, it can be tentatively concluded that the more integrated into the global economy is the individual economy, especially through its financial sector, and especially with respect to the liberalisation of short-term capital account transactions, the more vulnerable is the economy to external shocks. The most successful export-led industrializers have, ironically, been most adversely affected by the fall in the rate of growth of manufactured goods exports.
2. A number of the case study countries (for example Argentina, Nigeria and Cameroon) already were facing major economic problems prior to the onset of the crisis. It is thus difficult to disentangle the impact of the crisis from underlying economic conditions, to disaggregate structural from cyclical factors. Many countries already faced major problems in their manufacturing sectors – poor infrastructure, high import dependence, shortages of skilled labour, limited indigenous technological capabilities, lack of competitiveness – which were exacerbated by the crisis. But equally, countries with highly competitive, export-oriented manufacturing sectors, for example, China and Tunisia, were affected by falling demand in their major markets.

3. Can the crisis be seen as an opportunity? This view is expressed in several of the case studies (Tanzania, Nigeria) but it can be argued that no-one benefits from the crisis in the longer run. Competitive devaluations, protectionist measures and ill-considered government interventions may have a short-run impact but are likely to do damage in the longer run. This is not to deny the need for structural changes in many developing countries and perhaps radical policy changes to deal with major development issues, but such changes are best implemented in stable macroeconomic conditions and as part of a planned policy change, rather than as a response to a deteriorating economic situation or an actual economic crisis.
4. Little importance appears to be attached to the influence that the size distribution of income has on how the impact of the crisis is mediated through domestic economic and institutional structures. This is owing to a number of factors including the scarcity of good empirical data on income distribution, the difficulty of modelling the influence income distribution has on economic development in general and the impact of the crisis in particular and the long neglect of the importance of income distribution on and for economic development. Other things being equal, income distribution will be an important determinant of the size and characteristics of the domestic market (in a poor country, a less unequal income distribution, should, *ceteris paribus*, imply a larger domestic market for basic consumer goods, agricultural inputs and perhaps intermediate goods); in a highly unequal country, *ceteris paribus*, the burden of adjustment is more likely to be unevenly distributed, with middle and upper income groups less likely to be adversely affected than the poor.
5. In many countries, SMEs appear to have been hardest hit by the fall in credit availability. Although some governments have taken steps to try to maintain the flow of credit to SMEs, it should be emphasised that this is not a problem confined to crisis conditions. Virtually all the evidence suggests that shortage of credit is always a major problem (Nixson and Cook, 2005), that should in any case be addressed, given the importance of the SME sector as a generator of employment and a seedbed for entrepreneurship.
6. What stands out from the country case studies (as of mid-2009) is the lack of an imaginative and positive response to the impact of the crisis on the manufacturing sector. There appears to be little original thinking, beyond standard Keynesian policy responses (which are of course important), in dealing with the crisis. We return to this point below.
7. It has been conventional wisdom in development for at least the past three decades that countries should adopt strategies of export-led industrialization (EOI) without any real

appreciation, with certain exceptions, of “fallacy of composition” arguments. Not all countries can pursue EOI policies with equal intensity or success and/or improve their positions (capture more value added) in global value chains or global production networks. A re-evaluation of the importance of the domestic market and the development of regional integration schemes and regional markets may well be one positive outcome of the economic crisis.

8. Although this paper is not directly concerned with macroeconomic policy, a number of issues have to be highlighted: (i) we have already referred above to the importance of capital account liberalisation and the volatility of short term capital movements. Once capital account movements are fully liberalised, governments face the so-called policy trilemma, in which only two of three desirable macroeconomic objectives (a stable exchange rate, autonomous monetary policy and free movement of capital) can be achieved at any one time. Not only does capital account liberalisation introduce a degree of instability into the economy, but there is an observed tendency for speculative short-term capital to move into real estate, the stock market and other essentially speculative activities; (ii) it is not always widely understood that liberalised or deregulated financial markets in particular have to be re-regulated. As the financial crisis demonstrates, regulation requires commitment, resources and expertise, all of which may be scarce in developing countries; (iii) given the importance of the exchange rate, governments should not allow it to become over-valued, in order to maintain the competitiveness of manufactured exports. Even if export prices are in dollars, an over-valued exchange rate will squeeze domestic incomes.

There appears to be a feeling in a number of countries that because their financial sectors were not fully integrated globally, and that they have escaped the full impact of the crisis on the financial sector (the need to rescue failed banks, etc), they have somehow escaped the crisis itself. This is a very short-term view which we return to below.

10 The Implications of the Crisis for Industrial Policy

We have noted above the apparent lack of new or radical thinking about how countries should respond to the impact of the crisis by rethinking industrial strategy and policy. UNIDO (2009, p.4) reemphasises the centrality of industrialization to development: “Industrialization is integral to economic development. Scarcely any countries have developed without industrializing, and rapidly growing economies tend to have rapidly growing manufacturing sectors”. All growing

economies undergo structural change, both inter- and intra-sectoral, and as per capita incomes grow, resources are shifted into higher productivity sectors and activities, and economies become more diversified (Imbs and Wacziarg, 2003). There is general agreement that productivity growth determines the competitiveness of manufacturing activities and thus a rapidly growing economy, with a rapidly growing manufacturing sector will be a more competitive economy.

UNIDO (2009, Chapter 6) focuses on policies to improve industrial competitiveness in two groups of countries, into which some of the case study countries fall, namely, low income countries at the “bottom” of the world economy and middle-income countries whose markets are being “squeezed”. These policies include:

- Closing the infrastructure gap in low income-countries;
- Improving trade logistics in both groups of countries;
- Public policies to work with the market in enhancing agglomeration (industrial clusters);
- Linking export promotion and spatial policies through special economic zones (SEZs) to provide a clear focus for government investments and institutional reforms;
- Public investment in information and co-ordination with deregulation in existing industrial agglomerations to help boost productivity and competitiveness;
- Promotion of regional integration, where regions are divided into many small countries.

Do these proposed policy initiatives go far enough in dealing with post-crisis issues? The greater awareness and understanding of market failures and information asymmetries have led to a refocusing of attention on industrial policy which in turn must concentrate on the creation of capabilities, institutions and incentives (Lall, 1991). Rodrik (2007) has argued that policy must embed private initiative in a framework of public action that encourages restructuring, diversification and technological dynamism, taking due account of information externalities and co-ordination problems.

These approaches address more directly some of the issues raised in the case studies. How do countries develop the capabilities to diversify in order to reduce their dependence on a narrow range of commodity exports and a limited range of markets? How do they upgrade their positions in complex value chains and capture more value added? How do they develop their domestic technological capabilities? How can enterprises be given the resources and incentives to begin to invest in research and development (R&D) to diversify both into already established products (learning) that can be produced domestically at low costs and to focus on new activities and

technologies that have to be established or acquired as part of the industrialization strategy (innovation)? Without innovation, how are countries going to create the jobs they need both to recover from the recession and provide employment to new recruits to the labour force? Most importantly, have some countries already reached the limits of EOI and need to rebalance with more attention paid to the domestic market? Without posing and attempting to answer these questions, it is difficult to see what will be learnt from the current crisis that will help reshape future development and industrialization policies.

11 Can Green Sunrise Industries Lead the Drive to Recovery?

UNIDO has commissioned a number of studies which cover a number of inter-related issues very relevant to the issues discussed above. Within the framework of the need for developing countries to become not only more effective learners but also innovators, and within the context of global warming, the need for new renewable energy supplies and the greater emphasis now placed on recycling, the papers discuss the wind power industry in China and India (Lewis, 2009) and Latin America (Spinadel, 2009), the organic recycling industry in Asia (Kojima, 2009) and specifically in the Philippines (Chiu, 2009) and technological development in the automotive industry in developing countries (Wad, 2009). Lee (no date) discusses the concept of “green growth” and “green industrialization”.

11.1 The Wind Power Industry

Can developing countries develop new competitive advantages in “green” sunrise industries that will manufacture sustainable products and will compete on the basis of continuous innovation and technical change and grow rapidly on the basis of new entry and output expansion? (Lewis, 2009). Lewis argues that energy developments in India and China are transforming the global energy system and that the two countries are playing an increasingly important role in global wind power development, although China is focusing more on its domestic market at present.

Wind turbine components fall into two categories (Spinadel, 2009): (i) low technology components (towers, cast/forged parts) typically manufactured using standard techniques, where minimum quality specifications must be met but where cost is the major determinant of competitiveness; (ii) high technology components such as blades, control systems, gearboxes and generators. While the more advanced technologies were initially developed in the industrialized economies, they are increasing being utilised in the emerging countries (Lewis, 2009).

China is the second largest wind power market in the world after the USA. Its market is split between domestic Chinese turbine manufacturers and the large global manufacturers, all of whom have plants in China. Foreign wind farm equipment, although more expensive than Chinese equipment, is generally thought to be more technologically advanced and more cost efficient, with concerns expressed about quality control in Chinese wind turbine manufacturing. China also remains dependent on imports for key components (precision bearings and control systems, for example). There is no reason however why, by “learning through doing”, Chinese enterprises should not be able to “catch up”, within a framework that subsidises wind energy R&D, encourages joint ventures and technology transfer, and government policies that favour Chinese manufacturers.

As of 2008, India was ranked 5th in the world in terms of grid connected wind power installations, and the third largest wind market in the world in terms of annual installations (Lewis, 2009). India has a concentrated local wind power industry of relatively few but powerful turbine manufacturers and developers, and has developed important export markets. The Indian Government supports R&D in wind power technology and provides other means of support to develop local wind turbine manufacturing.

The Latin American wind power industry is dominated by Argentina, Brazil and Mexico, with plans to encourage local industry development in Venezuela and Uruguay (Spinadel, 2009). The structure of the sector is complex with a variety of producers, both foreign and domestic, and a variety of joint venture arrangements, with enterprises specializing in different segments of the market. Fossil fuel price fluctuations influence the competitiveness of the industry, and the financial crisis has led to the postponement of some higher risk projects.

Wind power is a growth industry globally and as technology development becomes increasingly global, developing country enterprises can take advantage of increasing access to technological know-how and as “learners” compete on the basis of cost and increasing technological sophistication and quality. Other developing countries, with appropriate manufacturing capabilities and technological competencies, can learn from these country experiences.

11.2 The Organic Recycling Industry

The organic recycling industry is defined as the industries treating organic waste from the agricultural sector, the industrial sector, retailers and households, producing cattle feed, producing compost, generating energy and selling carbon credits (Kojima, 2009). Investment in organic waste recycling both stimulates economic activity and is a move towards mitigating damaging environmental and climate change.

There is a variety of activities included under this heading: organic waste recycling (composting from waste generated by food processing companies, restaurants and households); methane recovery from food waste to generate energy; energy recovery from agricultural waste; methane recovery from landfill gas and other forms of organic waste recycling including the production of bioethanol from sugarcane bagasse and the carbonisation of food waste and wood waste for use as fertilizers and construction materials. A variety of technologies can be used for these activities depending on the type of wastes, volume, location and demand. Some activities are market driven (animal feedstuffs, for example) but others require government action (legislation to enforce recycling, the promotion of clean development mechanisms (CDMs), financial support, subsidies). Apart from obvious environmental benefits from these activities, if greenhouse gas emission targets are to be achieved, full use of existing and the development of new, innovative technologies will be required. There is no obvious reason why developing countries cannot take a lead in the development of these activities.

11.3 “Green Growth”

“Green growth” denotes the enhancement of an economy’s growth potential based on low carbon emissions, which implies going green “defensively” by responding to climate change. “Green industrialization”, on the other hand, means going green “aggressively” by creating new markets, using green technologies and environmentally friendly business models which will create a virtuous circle between environmental protection and economic growth (Lee, no date).

In the “green market” (still in its infancy) major countries are focusing their capabilities on securing “first-mover” advantages. In Japan, the so-called “Fukuda Vision” (June 2008) will concentrate on the development of new core technologies for greater energy efficiency and renewable energy (power generation and transmission, transportation, innovative technologies for materials and steel making, public livelihood – energy saving housing and buildings – for example). China, stigmatized as a major polluter, is fostering the new renewable energy sector,

and has rapidly adopted leading technologies (solar power-based cooling and heating products, solar cell production and wind-power turbines) (Lee, no date).

Wad (2009) argues that automotive firms in developing countries have a unique opportunity to become part of a “green revolution” aimed at increasing fuel efficiency and renewable energy, lowered emissions, reduced fuel insecurity and more complete recycling of scrap. Few developing economy companies will be able to achieve these goals on their own, that is, without joint ventures, technology agreements, further FDI in the sector, etc., and government support is required in terms of promoting R&D, economic incentives, investment in green infrastructure and steps taken to widen markets and improve motor vehicle affordability. Automotive parts suppliers must be encouraged to become more innovative and competitive and the industry must be inserted into “...a sustainable and comprehensive transport sector enabling increased mobility of people and goods together with decreased environmental degradation, depletion of non-renewable resources and global warming” (Wad, 2009, p.1).

The other example discussed is the Philippines paper recycling industry (Chiu, 2009). It is argued that there are opportunities to promote the more efficient utilization of recyclable materials and to reduce solid waste in their production activities. Enterprises need to put greater emphasis on their capabilities for independent innovation, energy savings and emissions reductions with the objective of enhancing core competitiveness. Government has a key role to play in a variety of ways, both short and medium term in terms of the issues raised in Section 10 above (creating appropriate institutions to deal with market failures and creating appropriate incentive mechanisms, for example). Chiu (2009) refers to the development of the Chinese pulp and paper industry, which has progressed, driven by innovation and internationalization, in terms of scale, machine supply levels, environmental protection and quality standards, largely due to improvements and developments in world paper making technology.

Not all developing countries will be able to move towards “green industrialization” in the manner outlined above. Governments need competence and commitment to introduce and enforce appropriate policies and incentive structures, enterprises need key competencies, there needs to be a commitment to R&D and education and training, and countries and their domestic enterprises have to be able work in co-operation with dominant foreign companies which are likely to be at the forefront of global technology frontiers. UNIDO will have a key role to play in these developments.

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