

Structural Change, Global Imbalances, and Employment in the Least Developed Countries

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1. Introduction

Economic development in the least developed countries (LDCs) is often seen as being constrained by a range of socio-economic and geophysical impediments, which have made this group of countries extremely vulnerable to external shocks. The current global economic crisis is an extreme example of such an external shock. While the group of LDCs experienced a smaller direct adverse impact of the recent financial turmoil than most other developing countries, some LDCs were also exposed to adverse impacts of increased fuel and food price volatility. These adverse effects have been reinforced by the decline in export opportunities caused by the recent weak economic performance in advanced economies.

The persistence of weak external demand could deepen the structural weaknesses of LDCs and jeopardize industrialization. This would most probably retard these countries' convergence with more advanced economies, as the development process has traditionally been equated with industrialization. The importance of manufacturing for economic development relates, on the supply side, to its potential for strong productivity growth and, on the demand side, to the high elasticity of demand for manufactures. The productivity growth potential in manufacturing activities derives from the growing tendency towards specialization and learning and agglomeration economies as well as from static and dynamic economies of scale. As labour and capital move into these activities, average productivity in the economy climbs. This further enhances the demand for services and industrial products, which generates profitable new investment opportunities in these areas and growing demand for labour.

Both the rate of growth and the pattern of international demand are likely to become less favourable. Prior to the current global economic crisis, a sharp increase in demand for manufactured imports in the United States provided a strong stimulus to exporters of manufactures and further supported the role of industrializing Asian economies, particularly China, in global growth and trade flows. This in turn reinforced growing demand and soaring prices for primary commodities from 2002 to 2008, which temporarily reversed the usually bleak demand prospects for primary commodity production.¹

These developments have been accompanied by the accumulation of persistently large imbalances in the world economy - with sizeable current account deficits in some countries, particularly the United States, and sizeable current account surpluses in others, notably Germany; Japan; developing countries in East Asia, especially China; and a number of oil-exporting countries. These imbalances contributed to the outbreak of the

¹ Another factor has to do with the substantial changes that have occurred in the services sector over the past few years. For example, the information and communications technology (ICT) revolution has increased the tradability of services, as well as the potential for productivity growth of ICT-based services. This will not be further discussed here.



current crisis and facilitated its global spread. While global imbalances declined in the immediate aftermath of the crisis, they have been widening again with the ongoing recovery of the world economy.

There is widespread agreement that the current imbalances are unsustainable. A smooth and non-deflationary reduction of global imbalances is indispensable not only for ensuring that the recent global economic upturn continues, but also for minimizing the risk of recurrent global economic turmoil. A reduction in consumer spending in the United States and in its imports of consumer goods, combined with an increase of consumer spending in China and a decline in its exports, is usually seen as being indispensable for a sustained unwinding of global imbalances, as reflected in the various documents and statements emanating from the Group of Twenty's (G-20) Mutual Assessment Process. But, given that the production of consumer goods is a relatively labour-intensive activity, global rebalancing is likely to affect employment in addition to trade flows. LDCs may be particularly exposed to such risks because they often lack domestic purchasing power for consumer goods, so that the extent of their labour-intensive manufacturing activities is frequently determined by demand levels in developed country markets and the facilities for accessing those markets.

This essay addresses the effects of changes in the level and composition of global demand, and especially of global rebalancing, on trade flows and employment from a demand perspective. It emphasizes that these effects depend on the relative importance of rich and poor countries, as well as of different components of aggregate demand, in global growth. These effects, in turn, affect export opportunities of all countries, including the LDCs, as well as structural change and employment opportunities in their economies.

2. Structural Change: Recent Evidence

Evidence on the patterns of aggregate and sector-specific growth indicates that rapid per capita income growth in developing and transition economies is, in the vast majority of cases – including for the LDCs taken as a group – associated with rapid growth of manufactured or services output. Where aggregate growth rates are negative or low, so are the growth rates of manufactured output. This pattern holds for both the period 1995-2002 (when several emerging-market economies experienced slow growth and financial crises) and the period 2002-2008 (when economic growth accelerated in a number of emerging market

economies that joined the United States as major drivers of global demand and boosted the demand for primary commodities), even though rates of aggregate and sectoral growth were significantly larger in the second than in the first of these two periods.

The fact that rapid income growth mainly drives growth in demand for manufactures means that the growth rates in the manufacturing and services sectors exceeded those in the agricultural and mining sectors even for the period 2002-2008 when the prices for primary commodities were rising very rapidly on international markets. Several factors could explain this feature: it could indicate that policymakers managed well the inflow of windfall profits resulting from the commodity price boom and avoided the adverse impact on non-resource sectors that in the past was often associated with natural-resource booms. It could also indicate that rapidly expanding household consumption in the United States provided sufficiently high external demand for many developing countries such that, on aggregate, developing and transition economies enjoyed buoyant external demand across all economic sectors. Such imports are likely to have provided favourable export opportunities for manufactured exports from the LDCs, such as in the apparel sector.

3. Medium-Term Shifts in World Demand Structure

A country's export opportunities strongly depend on the level and structure of global trade. The degree and structure of changes in world trade, in turn, depends on the relative importance of rich and poor countries and of different elements of demand in global growth. As long as per capita income growth in rich countries drives the rate of global economic growth, their demand pattern will have a key effect for global trade patterns. Given their already high levels of industrialization and per capita income, their demand preferences will, in addition to often non-tradeable services, tend to emphasize manufactured consumer goods. By contrast, industrial raw materials, energy and food products will feature more prominently in the demand patterns of rapidly industrializing poorer countries. The growing importance of emerging economies in global demand growth and the attendant changes in trade flows alter relative prices on world markets and shift the demand functions faced by producers - inward for the products usually demanded by rich countries and outward for products usually demanded by poor countries.

Whether global income growth is driven by investment, consumption or exports will also affect the level and composition of trade flows. There are sizeable differences in the import intensity of different components of demand. Numerical evidence indicates that import intensities vary over time but that, in most countries and at most times, the import intensity of exports exceeds that of consumption which, in turn, exceeds that of investment.

Differences in import intensity imply that changes in the composition of a country's aggregate demand will cause significant shifts in its imports even if the level of national aggregate demand itself does not change. In the lead-up to the current crisis, global output growth was characterized by a relatively high import intensity, based on the combination of three factors: (i) rapid growth in the United States based on import-intensive consumption; (ii) the export-oriented development strategy that many countries in East and South East Asia have been following over the past two or three decades, which was embedded in global production sharing and an associated high import content of these countries' exports; and (iii) the ensuing rapid industrialization in Asian developing economies, especially China, which was one of the factors that supported rapidly growing demand and booming prices for primary commodities between 2002 and 2008.

4. Rebalancing: Which Countries Could Compensate Decline in US Consumer Demand?

It is clear that a correction of current account imbalances and - their domestic mirror image - the savings-investment disequilibria will change the structure of world demand and affect the sectoral composition of domestic output, trade flows and employment. These mechanisms are global in scope, affecting developed and developing countries, but the following focuses on the two main protagonists in this story (China and the United States) with some additional discussion of effects that result from rebalancing that also includes adjustment in Germany.

Adopting an initial bipolar perspective appears useful for several reasons. First, China and the United States have accounted for sizeable shares of global imbalances [China for about 25 percent of surpluses and the United

States for about 45 percent of deficits in 2008, i.e. the year when the sum of individual countries' absolute current account positions reached a post-war peak of over 5 percent of global Gross Domestic Product (GDP)]. Second, the recent growth trajectories of China and the United States appear to have developed in opposite directions. Consumption as a share of GDP increased in the United States, but fell in China; investment rose dramatically in China while its importance shrunk in the United States; and China's trade surplus sharply contrasted with the substantial deficit in the United States. Thus the United States current account deficit has been associated with a low national savings rate and a continuously rising share of private consumption in GDP. At the same time, along with China's current account surplus, it has had a very high national savings rate and a very low share of household consumption in GDP. However, the external position of neither of these two countries is sustainable. In the United States, unless another asset bubble occurs, there is no alternative to deleveraging debt-financed household consumption, and in China, the need to embark on a major structural transformation from investment- and export- to consumer-led growth has been officially recognized.

A return of United States household savings to about 4 percent of disposable income - the average of the mid-1990s (i.e. before those households went on a spending spree) - would translate into a fall in household consumption of about 3 percent of GDP. Given that before the crisis United States household consumption accounted for about 16 percent of global demand and that a sizeable part of United States consumption consisted of imports, this would imply a reduction in world demand and therefore a decline in other countries' export opportunities.

A key question that arises is whether other countries' consumer demand could make up for the decline in United States consumer demand.² This raises at least two issues: (i) the importance of the absolute level of United States household consumption at the global level, and (ii) the composition of United States imports of consumer goods.

With respect to the first question, United States consumer demand is by far the largest in the world in absolute terms. It is unlikely that a sharp decline in United States imports of consumer goods could be

² In principle, other types of demand could replace household consumption demand for imports. But this is unlikely to occur. Public-sector demand is generally less import intensive than private demand because public servant wages are an important component of government consumption and services are an important component of public investment. Moreover, the import intensity of United States exports is very low (see H Kranendonk and J Verbruggen, 2008, Decomposition of GDP-growth in some European countries and the United States, CPB Memorandum 203, Netherlands Bureau for Economic Policy Analysis).

compensated by an increase in consumer spending - and associated imports of consumer goods - by China or any other developing country. Given that China's consumption is only about one eighth of United States consumption and that its GDP at current exchange rates is only one third that of the United States, there is little reason to believe that household consumption in China could supplant United States household consumption as a driver of global growth any time soon. In order for Chinese consumption to compensate for the decline of United States consumption back towards its average long-term trend, the share of consumer spending in GDP in China would need to increase by about 10-15 percentage points (depending on the difference in the two countries' rates of GDP-growth) - an unlikely occurrence in the foreseeable future.³ Domestic demand could also expand in other relatively large and rapidly growing developing countries, notably Brazil and India. However, compared with the United States economy, the economies of these countries are still small, making it unlikely that they could compensate fully for the decline in United States consumption. Rather, household consumption in developed countries in the European Union, particularly Germany, as well as Japan, would be better placed to achieve this.

Perhaps even more important, the composition of United States imports of consumer goods differs greatly from that in many other countries. An import similarity index based on 428 different consumer goods indicates that China's basket of imported consumer goods overlaps that of the United States by only about 45 percent. This index also indicates that the composition of imports of consumer goods by major developed countries with current account surpluses, namely Germany and Japan, is very similar to that of the United States. Combined with the evidence on the size of household consumption, this shows that these two developed countries would be in a better position than China to compensate for the decline in United

States consumer goods imports (as further discussed in the following section).

5. Impact of Rebalancing on Trade Flows and Employment

The implications of global rebalancing for trade flows and employment are inferred from a simulation of the impact of reduced consumer spending in the United States and increased consumer spending in China (both measured as a share in GDP) on changes in sectoral trade flows and employment.⁴ The simulation is based on the assumptions that adjustment in the United States would lead to a slowdown in the rate of GDP growth there,⁵ and that in both China and the United States the share of household consumption in GDP would be restored to historic levels. Taking account of differences in the size of GDP in China and the United States, the latter assumption implies that the increase in China's consumption would compensate about half of the decline in United States consumption.⁶

The main result of this simulation indicates that this way of rebalancing would remove much of the demand stimulus, which, prior to the outbreak of the current crisis, the United States was providing to the world economy, and that this would not be compensated by a stimulus of similar size from increased consumption in China. Perhaps more important, given that high-demand consumer goods (such as wearing apparel and leather goods) are among the most labour-intensive manufactures, labour-intensive sectors would be affected most by the decline in world industrial exports.

These adverse effects of global rebalancing for trade flows and employment generation in industrial sectors would be mitigated if other surplus economies, particularly Germany, were also rebalancing. Ongoing stagnation of private consumption in Europe and the tendency to embark on perhaps premature fiscal

3 According to the Bank for International Settlements' 2007 Annual Report (p. 56) "final consumption goods constitute only 4 percent of China's total imports and calculations suggest that the elasticity of demand for its ordinary imports (i.e. those not used for processing in the export sector) with respect to domestic spending is insignificant". For further numerical evidence, see below.

4 The results from the simulation may be considered as reflecting the medium-term effects (i.e. spanning a period of 5-10 years) of rebalancing confined to China and the United States. However, it should be borne in mind that the results of the simulation are only partial; they are not intended to describe the overall impact of a global rebalancing. In addition, they should be interpreted with considerable caution since they do not take into account a number of factors, such as difficulties in moving labour across sectors, subsidies and problems of market access. Nevertheless, simulations are useful for identifying the countries and sectors that are vulnerable to global rebalancing and for forming an idea of the order of magnitudes involved.

5 This assumption is consistent with earlier experiences of rebalancing in countries with an external deficit that is typically associated with a slowdown in output growth, as noted in the International Monetary Fund's World Economic Outlook of April 2010.

6 Given that China's GDP is about one third that of the United States, the assumed 7 percentage point increase in China's share of consumption in GDP is about half of what would be required to compensate for the assumed 5 percentage decline in the United States' share of consumption on GDP, assuming no change in the level of GDP in either country.

consolidation programmes strongly reduces the probability of such a scenario to occur. Nevertheless, it may be useful to examine the trade and employment effects that would result if the share of consumption in GDP in Germany increased by 10 percentage points and reached the historic level in the United States of about 66 percent. This increase in Germany's consumption would compensate the second half of the decline in United States consumption, i.e. the part of the decline that would be left uncompensated by the increase in China's consumption. Contrary to the bilateral rebalancing scenario examined above, it may also be assumed that such a multilateral rebalancing would not reduce the rate of GDP growth in the United States.⁷

The decline in world exports of labour-intensive industrial goods will have different implications for different countries, depending on their sectoral production and trade structure. The simulation results for changes in sectoral employment of industrial sectors suggest that in sub-Saharan Africa (SSA), i.e. the region where most LDCs are located, employment

opportunities would decline in labour-intensive sectors, such as apparel, as well as simple transport equipment. Thus, global rebalancing is unlikely to spur industrialization and employment creation in LDCs.

To highlight the differences between bilateral and multilateral rebalancing, it is useful to compare the impact on trade flows and employment generation of such a multilateral rebalancing scenario with those resulting from rebalancing confined to China and the United States. Multilaterally coordinated rebalancing would lead to a smaller deterioration in the trade balance of SSA (driven by both a smaller decline in the volume of exports and a smaller increase in the volume of imports, as shown in Table 1). It would also cause much less detrimental effects for employment, including in some of the most labour-intensive industrial sectors, such as apparel and textiles (Table 2). This means that a multilaterally coordinated rebalancing would sizeably reduce the adverse effects on export opportunities and employment creation in the industrial sectors of SSA.

Table 1: GTAP simulation results of the impact of rebalancing in China, Germany and the United States on trade flows, selected countries and country groups

	Change in trade balance (Percentage points)	Share of trade balance in GDP	Change in export volume (Per cent)	Change in import volume
Scenario 1: rebalancing in China and United States				
China	-8.2	1.8	-17.6	3.7
United States	5.2	0.6	41.9	-15.4
Sub-Saharan Africa	-1.7	1.2	-2.5	3.1
Scenario 2: rebalancing in China, Germany and United States				
China	-7.4	2.6	-16.1	3.0
United States	5.2	0.6	42.2	-14.6
Germany	-11.3	-5.6	-24.8	13.9
Sub-Saharan Africa	-0.6	2.3	-0.8	1.1

Source: Author's calculations based on GTAP simulations.

Note: All changes relative to 2008.

⁷ In any case, the effects of this assumption are small compared with those caused by changes in the shares of consumption in GDP. The estimation results that support this finding are available from the author on request.

Table 2: GTAP simulation results for changes in sectoral employment in sub-Saharan Africa

	Scenario 1: Rebalancing in China and United States	Scenario 2: Rebalancing in China, Germany and United States
Industrial goods		
Petroleum and coal products	0.5	0.2
Processed food	-0.2	0.1
Livestock and meat products	0.3	0.1
Metals nes	-4.4	-2.3
Chemicals, rubber, plastic products	-1.6	-0.5
Ferrous metals	0.3	0.6
Non-metallic mineral products nes	2.2	1.2
Paper products and publishing	-0.4	0.3
Electronic equipment	1.1	0.8
Metal products	1.8	1.2
Wood products	0.5	1.6
Motor vehicles and parts	1.5	1.8
Manufactures nes	-0.5	-0.4
Machinery and equipment nes	-0.8	0.2
Textiles	-0.2	1.1
Leather products	2.2	3.0
Wearing apparel	-1.9	-1.5
Transport equipment nes	-8.7	-6.8
Memo items:		
Agriculture and mining		
Grains and crops	-0.6	-0.2
Forestry and fishing	0.5	0.5
Mining	-0.3	-0.4
Utilities and services		
Utilities and construction	5.2	1.8
Trade and transport	0.1	0.0
Commercial services	-0.3	-0.2
Other services	-0.1	-0.3

Source: Author's calculations based on GTAP-simulations, and UNIDO Industrial Statistics database CD-ROM 2009.

Note: The data in the table refer to percentage changes in the demand for unskilled labour relative to 2008. The percentage changes in the demand for skilled labour are very similar, and thus are not shown. Industrial goods are listed by increasing labour intensity, measured as the unweighted world average of the share of wages and salaries in sectoral value added during the period 1995-2005.

However, in spite of the assumed full compensation of the decline in United States consumption by an opposite development in China and Germany, world exports of industrial goods would decline. Indeed, as indicated above, the absolute level of consumer spending is only one element that determines consumer good imports. Another one is the similarity of consumer good imports across countries. While the basket of consumer good imports in Germany is fairly similar to that of the United States, this is not the case for China. Perhaps the most important element in this context concerns differences in the import intensity of consumption and exports in different countries. In China, the import intensity of exports is much larger than

that of consumption, as well as much larger than that of United States exports. Hence, a rebalancing from exports to consumption in China and from consumption to exports in the United States would cause an overall decline in imports. The result of rebalancing in the United States and Germany would go in the same direction. The import intensity of consumption in the United States is about one half that in Germany, while the same proportion is about one third for exports, as already mentioned. This means that the combined effect of a shift from exports to consumption in Germany and a shift from consumption to exports in the United States would also be an overall reduction in imports.

6. Conclusions and Policy Implications

Policies to ensure adequate and balanced global demand are indispensable for sustained income growth in all countries and especially the poorest among them. It is crucial in this respect that concerted and effective international policy coordination, such as intended through the G-20 process, be pursued. All countries, developed and developing alike, must avert the risk of deficient global demand posed by a premature withdrawal of policy stimulus and refrain from introducing protectionist trade actions.

Such actions are at the top of the agenda in the G-20 process. Nevertheless, cross-country differences in economic growth, as well as in the contribution of consumption and exports to economic growth, which played a key role in the accumulation of substantial global imbalances, will persist and play a crucial role also for the reduction of global imbalances. Focusing on the adjustments in the two large economies of China and the United States combined, the net effect for the world economy is likely to be deflationary, but at the same time insufficient to bring about an unwinding of the large global imbalances. This is because not only the absolute value of the consumer goods bought by Chinese households, but also their import content is much smaller than that of goods bought by United States households. Moreover, the composition of consumer goods imported by China differs considerably from that of the goods imported by the United States. As a result, there will be a tendency toward deterioration in the trade balance of many other countries in the world economy, unless the necessary adjustments in the United States and the structural changes in China are accompanied by rebalancing efforts in other surplus economies.

Since world exports are set to decline, especially for industrial goods, with the largest declines likely to occur in the most labour-intensive industrial sectors, the net effect of adjustments by China and the United States could well have a sizeable adverse impact on employment worldwide. The impact will differ across countries, depending on their sectoral production and trade structure. As long as China's robust growth

trajectory remains in tact and investment in the country's large infrastructure projects are pursued, its raw material imports are likely to remain strong as well. This will support direct exports to China, as well as put a floor under prices of primary commodities, especially energy and metals. Thus, countries for which buoyant exports of primary commodities were supporting rapid economic growth prior to the crisis are likely to experience only marginal adverse effects from global rebalancing from this end. On the other hand, buoyant primary exports combined with reduced manufactured exports risk reducing incentives to promote structural change in natural-resource-rich developing countries, many of which are LDCs.

Preferential access to developed country markets, such as that granted under the African Growth and Opportunity Act (AGOA), is unlikely to be sufficient to preserve manufactured exports from African LDCs to the United States. Data on United States imports of articles of apparel and clothing raise some concern in this respect. For the period 2005-2009, such imports from sub-Saharan Africa declined by 37 percent, which was four times the decline of United States total apparel and clothing imports. This has been accompanied by a continuous erosion of sub-Saharan Africa's market share from about 2 percent in 2005 (the first year after the phasing out of quota regulations in global trade in textiles and clothing) to less than 1 percent in the first half of 2010.⁸ This calls for ways to make preferential market access for the exports of LDCs commercially meaningful. One approach could be that developed countries provide favourable tax treatment or other forms of support to their domestic firms to develop supply sources in the LDCs.⁹

An expansion of South-South trade in manufactures could help support manufacturing output and employment in LDCs. It has sometimes been argued that liberalization of trade among developing countries, including through the granting of preferences under the Global System of Trade Preferences (GSTP),¹⁰ could give a significant boost to manufactured exports from sub-Saharan African countries.¹¹ However, such results come from simulations that assume no significant change in manufactured

8 Data from United States Department of Commerce, International Trade Administration; data accessed on 27 October 2010 at <http://www.ita.doc.gov/>.

9 For further discussion, see UNCTAD, 2010, *Developing Productive Capacities in Least Developed Countries: Issues for Discussion*, Document UNCTAD/ALDC/2010/1, 15 October.

10 The GSTP agreement covers seven LDCs (Bangladesh, Benin, Guinea, Mozambique, Myanmar, Sudan and the United Republic of Tanzania). In December 2009, Ministers of participating developing countries agreed to substantially reduce tariffs and hold additional voluntary negotiations on further liberalizing market access.

11 See, e.g. M Fugazza, 2007, *A new geography of preferences for sub-Saharan African countries in a globalizing trading system*, available at mpra.ub.uni-muenchen.de/11575/1/MPRA_paper_11575.pdf.

exports from developing to developed countries. This is unlikely to be the case in a post-crisis world. Rather, very competitive developing country producers of apparel that will face declining export opportunities in the United States may well attempt redirecting their exports to developing countries, thereby absorbing export opportunities that might otherwise have benefited less competitive developing country exporters, including those in LDCs. By contrast, South-South and intra-regional trade could be strengthened by adding a cross-border or regional dimension to infrastructure investment and trade facilitation reforms.¹² This would be particularly helpful for small land-locked economies whose manufacturing activities may need to rely, especially in earlier stages when both domestic purchasing power and production of intermediate inputs is weak, on imported inputs and exported outputs.

Maximizing the developmental impact of developing countries' foreign direct investment (FDI) in LDCs could also play a crucial role in fostering trade between LDCs and more advanced developing countries. This is the case in particular where outward investors from emerging economies are state-owned companies whose behaviour could be influenced by home-country governments relatively easily. Examples of related LDC host-country government action include targets for sourcing a certain proportion of inputs domestically or for conducting some research and development activities in the LDC host countries.¹³

The overall decline in trading opportunities in durable consumer goods that the current global economic crisis has brought about reinforces the urgency of improving supply capacity in LDCs. Overseas development assistance in general, and support given through the aid-for-trade initiatives in particular, could make important contributions in this context. Valuable steps in this respect could be increased public investment (e.g. in infrastructure, including transportation), as well as easier access (and at more favourable conditions) to credit for activities in line with potential changes in global demand structure. Such improved access could be provided through financial support schemes (credit subsidies and guarantees) and through credit from national development banks, including in the form of private-public partnerships. International financing could further support such measures. For example, the International Spark Initiative could support private sector innovation by facilitating equipment modernization and technology transfers from abroad, etc.¹⁴

All these various policy measures, at both the national and international levels, must form part of a coherent development policy package. In particular, efforts by LDCs to strengthen their supply capacity are probably insufficient to sustain exports and employment creation in these countries if advanced economies adopt deflationary macroeconomic policies or resort to protectionist measures.

12 For further discussion, see UNCTAD (2007), Trade and Development Report 2007, chapter VI.

13 For further discussion, see UNCTAD (2010), *op. cit.*

14 For further discussion, see UNCTAD (2010), *op. cit.*

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