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Trade Liberalization and the Costs of Adjustment

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Trade Liberalization and the Costs of Adjustment

Introduction

Trade liberalization creates adjustment costs as resources are moved from one sector to another in the process of reform. When tariffs are reduced, import-competing firms may reduce their production in the face of new competition, causing some of their workers and capital to lie idle for a period. The firm's laid-off workers will incur costs while searching for new jobs and may need to invest in retraining. Governments will be called upon to provide assistance to the unemployed, while also incurring costs associated with implementing the new systems for managing reform.

To take advantage of the opportunities offered by improved access to foreign markets, developing countries will be required to make investments—in infrastructure by government, and in new facilities or technologies by exporters—before they can capitalize on the opportunities offered by improved access to foreign markets.

Significant trade liberalization will also affect the distribution of income among factors of production: the relative price of the factor which is in relative scarcity will decline, while that of the abundant factor will increase.[1] Agricultural subsidies get capitalized in the

[1] This is the implication of the renowned Stolper and Samuelson (1941) theorem; but even if the restrictive conditions under which it holds are not satisfied, there is a presumption that relative rewards to different factors will change in the way indicated.

price of land, and landowners will lose substantial amounts when such subsidies are eliminated.[2] Because there are large distortionary costs associated with taxation, there are large societal costs associated with the compensations designed to mitigate these effects.[3] Given the severe constraints on raising taxes in developing countries, the opportunity cost of funds diverted for even partial compensation may be very high.

Trade liberalization also reduces tariff revenues as alternative sources of revenue are limited, and may have high associated costs. Thus, either public expenditures get reduced or other taxes are increased, and either of these may have significant adverse effects on growth.[4]

Trade liberalization may impose further costs: the movement from quotas to tariffs, whatever its merits, may expose countries to additional risks.[5] Developing countries with weak social safety nets will have to devote more resources to strengthening these safety nets and will have to mitigate the cost of risks. This too needs to be viewed as part of the costs of trade liberalization.

In one sense, these adjustment costs can be thought of as the 'price' to be paid for the benefits of multilateral tariff reduction. Together these adjustment costs and trade benefits determine the net effect of trade reform for each country. The Doha Round has placed renewed emphasis on the importance of sharing the benefits of trade reform fairly among developed and developing countries. However, less attention has been paid to the distribution of adjustment costs among countries.

An understanding of the costs of trade reform is important for at least two reasons. First, if the 'development focus' of the Doha

[2] The numbers can be large. A $4bn annual cotton subsidy, if fully captalized in land values, translates at a 5% interest rate into $80bn.

[3] Thus, even if the dollar value of the gains to the winners from liberalization are greater than the dollar value of the losses to the losers, trade liberalization may *not* be welfare-enhancing when the costs of compensation are taken into account.

[4] Many countries have shifted to greater reliance on the value-added tax, but as Stiglitz (2003) has argued, this switch may have adverse effects on development.

[5] That is, countries now are more subject to the vagaries of international prices. See Dasgupta and Stiglitz (1977). More generally, trade liberalization may make countries more vulnerable to external shocks, and for countries in which trade looms large in GDP, the result may be greater macro-economic volatility. See Easterly, Islam, and Stiglitz (2001), and especially the fuller text of the Michael Bruno Memorial Lecture, 'Is there a Workable Macroeconomic Paradigm for LDCs?', presented by J. E. Stiglitz at the 12th World Congress of the IEA, Buenos Aires, 27 Aug. 1999.

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Round is to have any meaning then WTO members must be mindful of the fact that the cost of adjusting to their agreements will have serious consequences for development. Not only do adjustment costs fall particularly harshly on the poorest people in the world because they are least able to afford them, but also the costs consume resources that would otherwise be spent on alternative development priorities. For many people, the impact of trade reform will overwhelm the effects of other economic development programs.

The second motivation for understanding adjustment costs is the pragmatic need to win political support for reform. High adjustment costs give some groups a vested interest in the status quo. Identifying and compensating those groups may be an effective way of removing impediments to welfare-improving policy changes.

This chapter examines the effect of several sources of adjustment costs. A theme that runs through the empirical evidence is that the adjustment process resulting from the proposals emerging from the Doha Round will have a particularly harsh impact on the people and governments of developing countries—especially small developing countries. There are several reasons for this asymmetry. First, developing countries are most vulnerable to policy shocks because their export industries are the least diversified—many are dependent on the export and hence world price of just one or two commodities. Second, developing countries are likely to have to make the largest changes to comply with international regulations such as those embodied in the Singapore Issues. Third, the structure of world trade is most distorted in the industries of importance to developing countries. World markets for agriculture, processed foods, textiles, and other critical goods are those most distorted by developed countries' tariff policies. Consequently these industries will be highly affected by liberalization—even where reform has long-run net positive effects for developing countries, they will have to cope with adjustment costs, investment costs, and redistributive effects. Fourth, and most importantly, developing countries are home to the world's poorest people and the weakest credit markets. These people are particularly vulnerable to adjustment costs.

For these reasons, the adjustment to new trading rules is a radically different experience for developed and developing countries.

This chapter studies the process of adjustment and the costs it implies for developing countries. It notes that there are several policy measures that should accompany trade reform to minimize the costs of adjustment and the disproportionate welfare losses to particular social groups. Policies to assist developing countries to benefit from reforms are also surveyed briefly. Many of these policies will require assistance from developing countries and international institutions.

Costs of adjustment

Empirical studies have attempted to define and quantify adjustment costs in developed countries.[6] These studies suggest that labor bears the brunt of the costs, but that (ignoring the distributional consequences) for developed countries, the costs are small relative to the gains. Baldwin, Mutti, and Richardson (1980) analyse the adjustment costs for the US resulting from a 50 per cent cut in domestic tariffs. They focus on adjustment of the capital stock and the costs borne by laid-off workers. They find that labor bears almost 90 per cent of the adjustment costs. In total they conclude that adjustment costs account for 4 per cent of the gains from liberalization. De Melo and Tarr (1990) use a computable general equilibrium approach to analyse the welfare effects and adjustment costs resulting from the elimination of quotas in textiles, steel, and autos. In their model adjustment costs are measured as the lost earnings suffered by dislocated workers. They estimate that the adjustment costs are just 1.5 per cent of the gains from liberalization. Winters and Takacs (1991) found that the British footwear industry suffered just over 1,000 lost jobs as a result of the removal of quotas in the late 1970s and most of these workers remained unemployed for between 5 and 21 weeks. The study concludes that the lost income in the first year after the quotas were eliminated amounted only to between 0.5 and 1.5 per cent of the consumer gains from lower footwear prices.

[6] Several studies are reviewed in WTO (2003).

There is significantly less evidence on the size of adjustment costs in developing countries, but there are many reasons to expect that the costs identified in the studies above would be much larger in poorer countries. First, most of the industrial base of developing economies is concentrated in a few key industries. In 'one-industry towns' the costs of adjustment may be larger if the laid-off workers from the primary industry cannot be absorbed into alternative employment.[7] For example, liberalization of the cashew market in Mozambique in the late 1990s led to the loss of 85 per cent of the workforce employed in the local processed-cashew industry. Recent evidence suggests that whole towns have shut down as a result of the factory closures (WTO 2002).

Adjustment costs may also be exacerbated in poor areas because of limited access to credit. If capital markets are weak, viable firms may not be able to finance the short-term costs associated with new trade regimes and laid-off workers may not be able to find funds to retrain themselves for alternative jobs.

In many developing countries unemployment rates are high, and accordingly, the length of time that individuals will spend unemployed will be larger.[8] Studies in the United States show that the costs of adjustment for dislocated workers is lower for more-educated workers—evidently their higher education makes them more adaptable, and hence more mobile.[9] With education levels typically low in developing countries, one might expect the transition costs to be correspondingly greater.

There are other reasons why developing countries might suffer larger adjustment costs than developed countries. This section reviews some of the issues associated with the proposals emerging from the Doha Round. In particular, the reduction of MFN tariff rates will lead to the erosion of the preference margins currently benefiting the exports of the least developed countries under various non-reciprocal market access preference schemes.

Also, the reduction of tariffs has serious fiscal consequences for many developing countries. Over thirty countries—mostly small

[7] Among the costs that should be calculated are those associated with relocating labor and the loss in the value of the housing capital stock and the value of the associated infrastructure.

[8] See Shapiro and Stiglitz (1984) for a calculation of the relationship between the level of unemployment and the cost of losing one's job.

[9] For a survey of these studies, see Kletzer (2001).

and poor—derive more than 25 per cent of their public budgets from tariff revenue. For these countries, trade liberalization will necessitate massive reform of the taxation system to avoid fiscal crises.

Finally, developing countries face disproportionately high implementation costs from the proposals related to the Singapore Issues. Regulatory agreements in areas such as trade facilitation and competition policy require public expenditure on new laws, systems, administration, and enforcement. Estimates of the costs of implementing the regulatory changes in the Uruguay Round are high. For developing countries, whose institutions are weakest and in greatest need of reform to meet international standards, these implementation costs are disproportionately high. Thus, seemingly symmetric rules may have asymmetric costs.

For these reasons, Doha Round agreements should offer equitable market access rules as well as addressing differences in adjustment costs in order to achieve a fair deal for developing countries.

Erosion of LDC trade preferences

Several developed countries offer non-reciprocal preferential market access which reduces the tariff rates on the goods of least developing countries below MFN rates. Almost 12 per cent of US imports subject to MFN tariffs enter the US from LDCs under lower tariff rates through such non-reciprocal preference programs. Many LDCs fear that reductions in MFN tariff rates through multilateral trade liberalization would harm their exports by eroding their preferential margins.

Preferential tariffs for LDCs have formed an important part of global trade architecture since the inception of the Generalized System of Preferences (GSP) in 1968. Recently there have been a number of initiatives in OECD countries to discriminate further in favor of LDCs. Most notable among these are the EU's Everything but Arms (EBA) initiative and the US's African Growth and Opportunity Act (AGOA).

The net effect on LDCs of preference erosion through reduction in MFN tariffs depends on whether the loss of trade diversion

(the negative switching or substitution that occurs as the margin of their preferences declines) exceeds the gains from trade creation (the increase in global trade resulting from improved market access). The evidence below suggests that favorable trade diversion resulting from preferences has had only a limited effect on most LDCs.

However, large effects on a small group of countries and a small group of sectors cannot be ignored. The net effects of reductions in MFN tariffs could be summarized as being positive and significant for most industries in most countries (particularly developing countries outside the preferential schemes for least developed countries) but large and negative for a small number of producers. The policy implication of these results is straightforward: preference erosion is not a consideration that should impede multilateral liberalization, but it does suggest that compensation and adjustment programs for the small group of net losers should be an integral part of any liberalization program.

The benefits of trade preferences for LDCs

Preference schemes have been adopted in an effort to support the development of poor countries and assist them to integrate into the global trading system. Preferences increase the exports of beneficiaries, partly by diverting trade from countries that do not receive preferences. This competitive advantage may help LDCs to develop through increased investment, employment, and growth. Additionally preferences may encourage industrial diversification in countries that have relied on the production of primary goods.

However, analysis of preferential schemes on LDC exports shows only limited impact. Brenton (2003) studies the impact of the EBA initiative, which the EU has argued will 'significantly enhance export opportunities and hence potential income and growth' for LDCs (CEC 2002). In 2001 the EBA initiative granted duty-free access to imports of all products from the least developed countries (except arms and munitions).[10] Total exports from these LDCs to the EU increased by 9.6 per cent in 2001. However, in practice, as noted

[10] However, not all the preferences were implemented immediately: some will be delayed until 2009. The calculations here ignore these future impacts.

earlier, the EBA was only relevant to the 919 products (of the EU's 10,200 tariff lines) which had not previously been granted duty-free status under either the GSP or the Cotonou Agreement.[11] Of these 919 products, imports from LDCs were recorded in just 80 products in 2001. Brenton (2003) notes that total exports of these products actually fell from €3.5 million in 2000 to €2.9 million in 2001.[12] Moreover, trade in these goods in 2001 amounted to just two-hundredths of one per cent of the total value of LDC exports to the EU. Thus it appears that the direct impact of the EBA initiative has not been significant in the short term, and given the small size of trade in affected products is not likely to be large in the medium term. (Supporters of the EBA initiative are more optimistic; they focus on the fact that its provisions are being implemented only gradually over time. But as the discussion above indicates, the devil is often in the detail, and this provides some grounds for skepticism.)

Analysis of the long-run effects of trade preference systems including many countries requires general equilibrium analysis. Laird, Safadi, and Turrini (2002) evaluate the effects of the GSP scheme by analysing the welfare consequences of replacing GSP with MFN tariff rates. Their computable general equilibrium (CGE) simulations identify the costs and benefits of the GSP to a range of countries. Table 13.1 reports the percentage change in exports associated with the removal of the GSP (i.e. negative values indicate benefits resulting from the GSP). The trade effects are quite small, with the largest effect in South Asia, which is estimated to have had an increase in exports of 1.58 per cent as a result of preferences. There are also negligible effects on donor countries, among whom Europe alone suffers a very small export decline.[13] Table 13.1 also indicates that trade effects are concentrated in a small number of sectors, particularly textiles and processed agriculture. The smaller effects in agriculture for some of the LDCs

[11] Forty-four of these tariff lines were products such as bananas, rice, and sugar, for which liberalization was delayed for up to 8 years.

[12] The actual decline was even larger but Brenton removes the effect of the large drop in EU imports of Sudanese grain sorghum in 2000–1. These numbers do not include trade in the 44 products for which liberalization was delayed. There may, of course, be other factors affecting trade, and it is clearly possible that the declines would have been even larger but for the EBA initiative. The analysis above simply demonstrates the limited scope of the agreement.

[13] Note that this study only considers the GSP scheme and does not include the effects of other schemes such as the EU's Cotonou Agreement, which offers the largest gains to African countries.

Table 13.1. **Export Changes Resulting from the Replacement of GSP with MFN Tariffs (GCE results, %)**

	Sectors									
Exporting region	Mining	Transportation equipment	Machines	Metal	Other manufacturing	Agricultural primary	Agricultural processed	Textiles, apparel	Services	Total
Asian NICs	−0.05	−0.89	−1.03	−0.53	−1.2	0.33	−1.57	−2.07	1.02	−0.70
China	−0.13	1.09	−0.31	−0.53	−1.0	0.21	−1.45	−2.67	0.91	−0.8
South Asia	1.01	−1.29	−1.46	−2.12	−1.98	−0.79	−2.44	−3.50	2.28	−1.58
Western Europe	−0.60	−0.20	0.13	−0.36	0.23	0.01	0.62	1.40	−0.67	0.001
North America	−0.70	0.03	0.06	−0.11	0.05	−0.62	0.06	0.14	−0.49	−0.12
CEED	−0.15	−3.37	−1.51	0.07	−1.31	0.25	−1.54	0.68	0.70	−0.54
Sub-Saharan Africa	−0.06	1.78	−1.00	2.27	−1.70	−1.43	−9.40	−5.96	1.77	−0.75
Oceania	−0.68	0.50	0.17	−0.31	0.01	−0.49	−0.02	1.13	−0.09	−0.16
North Africa/Middle East	−0.10	−0.71	−3.74	−0.62	−1.51	−0.34	−2.18	−2.99	1.26	−0.48
South America	−0.13	1.11	0.62	−0.19	−1.83	−0.56	−2.51	−0.44	0.49	−0.39
Japan	−1.47	−0.67	−0.40	−1.13	−0.79	−1.37	−1.33	−4.34	−0.63	−0.64
Rest of world	0.145	−1.83	−2.88	−0.24	−2.80	−0.48	−6.90	−7.02	1.58	−1.46

Source: Laird, Safadi, and Turrini (2002)

Table 13.2. **Welfare Effects from the Replacement of GSP with MFN Tariffs (GCE results, US $m)**

	Allocation component	Terms-of-Trade component	Total	% change
Asian NICs	−405	−1,950	−2,317	−0.23
China	−360	−1,613	−1,855	−0.15
South Asia	−327	−594	−964	−0.19
Western Europe	−722	4,634	3,719	0.05
North America	85	1,866	2,252	0.02
Transition economies	−317	−941	−1,297	−0.17
Sub-Saharan Africa	−173	−512	−701	−0.22
Oceania	1	−22	−11	−0.003
North Africa and Middle East	−474	−1,315	−1,816	−0.23
Latin America	−226	−789	−1,043	−0.05
Japan	−246	1,466	1,189	0.033
Rest of world	−107	−256	−446	−0.17
Total	−3,275	−27	−3,293	

Source: Laird, Safadi, and Turrini (2002: table 5)

suggest that the GSP might play an important role in diversifying the industrial base of those economies. Table 13.2 reports the effects of the GSP on welfare. The largest beneficiaries in percentage terms are Africa and the Asian NICs. Overall the effects are quite small, amounting to less than 0.2 per cent of real income in any region. The implication of these results, if correct, is that there is likely on average to be little difference between the impact of trade liberalization measures (which undermine the benefits of preferences) on countries that are the beneficiaries of preferences and those that are not.

Why are the benefits so small?

In practice LDCs are often not able to realize much of the benefit promised by market access preferences. This is evident in the low degree of utilization of preference schemes. Table 13.3 illustrates the utilization of preferences offered by Canada, the EU, Japan, and the US. The table separates the underutilization of preferences into a component relating to the generosity of the scheme itself (the

Table 13.3. **Utilization of Non-reciprocal Preferences Granted by the Quad countries to LDCs, 2001**

	Total imports (1)	Dutiable imports (2)	Imports eligible for GSP (3)	Imports receiving GSP (4)	Product coverage percentage	Utilization percentage ((4)/(3))	Utility percentage ((4)/(2))
Canada	243.2	94.6	11.4	8.0	12.1	70.2	8.5
EU	4372.4	3958.1	3935.7	1847.4	99.4	46.9	46.7
Japan	1001.3	398.1	278.3	228.4	69.9	82.1	57.4
US	7221.3	6716.3	2960.1	2836.1	44.1	95.8	42.2
Total	12838	11167.1	7185.5	4919.9	64.3	68.5	44.1

Source: UNCTAD (2003)

product coverage ratio) and a component relating to the take-up rate (utilization ratio).

Interestingly, Table 13.3 shows that the EU has a high product coverage percentage and a lower than average utilization percentage and the US seems to have the reverse. In the case of the EU, over 50 per cent of eligible exports are not getting preferential access. Part of the reason for this is stringent rules of origin which are designed to prevent trade deflection, whereby products from non-beneficiary countries are routed through LDCs to exploit the preferences. Brenton (2003) suggests that one reason for the lack of take-up is that it can often be difficult or costly to acquire the required documentation to satisfy rules of origin.

Recent literature suggests that rules of origin are a main reason for the under-utilization of trade preferences (see Estevadeordal 2000) and preference-receiving countries themselves consistently identify rules of origin as a problem for their exporters.[14] Rules of origin often require exporters to devise and operate a new accounting system, which in most cases differs from existing systems designed to deal with domestic legal requirements. In many cases the additional expenditure incurred in operating a parallel accounting

[14] The shortcomings of the origin system and consequent obstacles to the utilization of preferences identified by preference-receiving countries were discussed in the context of the UNCTAD Working Group on Rules of Origin and in the Special Committee on Preferences. See 'UNCTAD, Compendium of the work and analysis conducted by UNCTAD Working Groups and Sessional Committees on GSP Rules of Origin, Part I' (UNCTAD/ITD/GSP/31) of 21 February 1996.

system may outweigh the benefit conferred by tariff preferences. This possibility is supported by evidence suggesting that underutilization is strongest in sectors where the preference margin is lowest and therefore less likely to be greater than the administration costs of complying with rules of origin.[15] Another cost imposed by rules of origin is that they may disqualify LDC exporters from preferences if they avail themselves of cheap imported intermediate inputs. UNCTAD (1996) finds evidence of this by relating peaks in Bangladeshi and Cambodian imports of fabrics from China to low utilization rates of preference schemes by textile exporters in those countries. This can be assumed to be a strong indication that the manufacturers have chosen to give up tariff preferences because they cannot comply with rules-of-origin requirements.

Another problem with preference schemes is that they are not particularly generous when rates are weighted across goods. Table 13.4 shows the benefits of GSP rates against MFN rates. When simple averages are taken the GSP rates are more favourable in all countries. However when weighted across goods average MFN rates are even lower than average GSP rates in the EU, Canada, and Japan. This occurs because the GSP rates in those countries are set as a margin under the MFN rates which are typically higher on imports

Table 13.4. **Tariff Averages for Imports under MFN and GSP, 1999**

		Simple tariff average	Weighted tariff average
Canada	MFN	4.49	1.27
	GSP	2.89	4.18
Japan	MFN	5.28	1.97
	GSP	2.2	3.47
US	MFN	5.59	2.56
	GSP	0.0	0.0
EU	MFN	7.07	3.56
	GSP	5.23	4.54

Source: Laird, Safadi, and Turrini (2002)

[15] UNCTAD (1996): 58.7 per cent of those Mexican exports to the US that were eligible for preferences but were not imported under them constituted goods whose preference margin was less than 5 per cent. Evidently, the cost of establishing that one is qualified to receive preferential treatment exceeds the benefits.

from developing countries. That means that MFN rates are so much higher on the goods exported by developing countries that even after GSP discounts, LDCs face higher average tariff rates. In a sense, the GSP only partially compensates for the discrimination by developed countries against the goods produced by the developing countries.

Figures 13.1*a* and 13.1*b* show the import duties paid to the us on high-value agricultural products. Figure 13.1*a* indicates that the US tariff system already discriminates against both low-income and middle-income countries in these products. Whereas high-income countries account for 75 per cent of dutiable imports in 2001 they paid only 56 per cent of duty. By contrast middle- and low-income countries paid higher duty as a proportion of dutiable imports. The reason is that (even allowing for preferences) US tariff peaks tend to concentrate on goods exported intensively by developing countries. Figure 13.1*b* calculates an 'effective tariff rate' as the ratio of duties collected to the value of imports. The effective tariff rate paid by middle-income countries is almost twice as much as that paid by developed countries. Trade preferences often further discriminate against middle income countries.

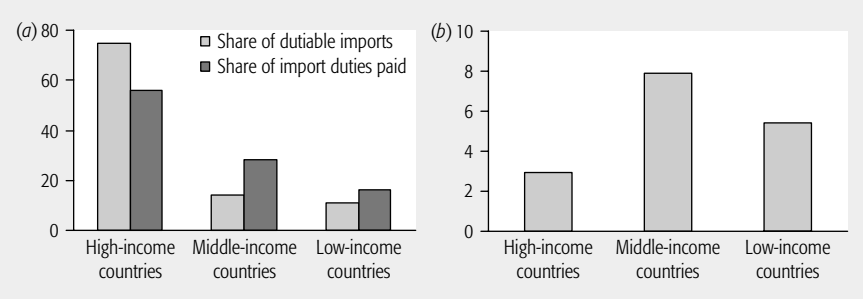

Figure 13.1. **Agricultural import protection in the US**
(*a*) Share of dutiable high-value agricultural products imports to the US and share of duty paid, 2001 (% of total)
(*b*) Effective US import tarrifs on high-value agricultural products by source, 2001 (% *ad valorem*)

Source: Wainio and Gibson (2003).

The impact of the erosion of the benefit of trade preferences as a result of lower MFN rates

Estimates of the benefits of preferences for LDCs (often calculated as the costs LDCs would experience if they were eliminated) are different from estimates of the costs of preference erosion through reduced MFN tariff rates. The chief difference is that in the case of preference erosion LDCs are compensated for the loss of competitive advantage in donor countries by increased market access in all other countries. As a result the costs to LDCs of preference erosion through MFN tariff reductions are likely to be smaller than the costs of preference elimination.

Waino and Gibson (2003) use a partial equilibrium model to estimate the effects of tariff-cutting liberalization on developing country exports. Their study focuses on the US and considers only a range of high-value agricultural products, including fresh fruits and beverages and processed food and beverages. Table 13.5 reports the results of an experiment in which all tariffs are eliminated. In particular it reports the trade creation effects (derived from the price reductions following tariff cuts) and the trade-shifting effects (from domestic consumers switching to those goods whose protection—and price—has declined most) for countries receiving non-reciprocal preferences, free-trade partners, and countries subject to MFN tariff rates.[16] The table indicates that the magnitude of trade effects is small. It also indicates that the beneficiaries of non-reciprocal trade preferences suffer no net loss from loss of preferences. Their market share is reduced but this is offset by capturing additional market share in those commodities for which they face (the now-lower) MFN tariffs but also compete with exporters in free trade agreements.

Waino and Gibson's study probably understates the net benefits of liberalization because they do not include the gains to LDCs from increased market access in countries where they were not previously receiving benefits. Since 28 per cent of LDC exports go to developing countries, and developing countries have higher average MFN tariffs

[16] Quite simply the model assumes that tariff reductions flow through to price reductions and increase the level of US domestic demand. However, the trade creation effects in their model may be overstated since they assume an infinite elasticity of supply.

Table 13.5. **Effect of Full Tariff Liberalization on High-value Agricultural Imports to US (US $m)**

	Preference beneficiaries	FTA partners	MFN partners	Global total
Pre-liberalization imports	4,503	9,709	7,551	21,762
Effect of liberalization				
Trade created	194	92	391	679
Trade shifted	−23	−153	176	0
Total effect	171	−61	567	679
Total effect as percentage	3.8%	−0.6%	7.5%	3.1%

Source: Waino and Gibson (2003)

than developed countries, the lowering of these tariffs is a potentially significant source of trade creation.

Moreover, if liberalization includes reductions in quotas, countries receiving preferences may even experience an increase in their exports to donor countries. Waino and Gibson (2003) offer the example of Peruvian asparagus, $26.7 million of which was exported to the US at preferential rates and $5.9 million at MFN rates. Peru is a low-cost exporter of asparagus and thus the reduction in its margin of preference caused only a small loss of market share, which would be more than offset by increased MFN exports under lower rates.[17]

Vulnerable industries

The results above indicate that the average effect of preference erosion on LDCs is unlikely to be large. However, this is not true for all industries in all countries. Industries that are particularly reliant on preferences could be seriously damaged by preference erosion.

In general the higher the dependency of countries on preferences, the larger the potential loss from MFN tariff cuts. Table 13.6 gives a useful insight into developing countries, levels of EU preference dependence. The penultimate column gives the share of exports newly liberalized under the EBA in 2001 as a percentage of total

[17] In a situation such as that just depicted, the *marginal* export is at MFN rates; the impact on trade is thus determined solely by the change in the MFN rate. Peruvian exporters, however, lose a rent equal in value to the value of the preference.

Table 13.6. **Importance of Products Liberalized under the EBA (monetary values in US$ 000)**

	Total exports to EU (1)	EBA exports (products liberalized in 2001) (2)	Sugar, bananas, and rice (3)	EBA exports share (%) ((2)/(1))	Sugar, bananas, and rice export share (%) ((3)/(1))
ACP countries					
Angola	1,944,630	91	0	0.00	0.00
Congo	941,784	7	50	0.00	0.01
Equatorial Guinea	754,865	0	0	0.00	0.00
Liberia	736,973	10	0	0.00	0.00
Madagascar	600,912	72	8,500	0.01	1.41
Guinea	579,518	41	0	0.01	0.00
Mozambique	530,174	248	991	0.05	0.19
Tanzania	395,283	35	6,648	0.01	1.68
Sudan	303,550	778	13,982	0.26	4.61
Mauritania	258,568	6	6	0.00	0.00
Uganda	242,524	116	55	0.05	0.02
Malawi	194,903	0	22,617	0.00	11.60
Ethiopia	159,389	12	968	0.01	0.61
Zambia	158,375	1,359	6,675	0.86	4.21
CAR	152,804	0	0	0.00	0.00
Niger	119,613	6	0	0.00	0.00
Benin	63,698	69	0	0.11	0.00
Burkino Faso	63,052	52	0	0.08	0.00
Djibouti	61,494	38	0	0.06	0.00
Togo	58,591	26	26	0.04	0.02
Chad	57,638	1	0	0.00	0.00
Mali	45,726	67	0	0.13	0.00
Sierra Leone	38,420	72	0	0.19	0.00
Rwanda	21,782	6	78	0.03	0.36
Comoros	20,770	3	0	0.00	0.00
Gambia	20,679	41	0	0.00	0.00
Burundi	19,474	19	0	0.10	0.00
Lesotho	12,797	0	0	0.00	0.00
Haiti	16,356	158	0	0.97	0.00
Vanuatu	13,653	0	0	0.00	0.00
Cape Verde	11,803	10	0	0.11	0.00
Sao Tome	8,009	0	0	0.00	0.00
Eritrea	6,737	1	0	0.01	0.00
Solomon Islands	4,975	0	0	0.00	0.00
Guinea Bissdu	4,542	0	0	0.00	0.00
Somalia	3,047	0	0	0.00	0.00
Samoa	2,206	0	0	0.00	0.00
Kiribati	728	0	0	0.00	0.00

Table 13.6. *continued*

	Total exports to EU (1)	EBA exports (products liberalized in 2001) (2)	Sugar, bananas, and rice (3)	EBA exports share (%) ((2)/(1))	Sugar, bananas, and rice export share (%) ((3)/(1))
Tuvalu	390	0	0	0.00	0.00
Non-ACP countries					
Bangladesh	3,318,865	69	5	0.00	0.00
Cambodia	482,480	0	0	0.00	0.00
Laos	143,716	74	42	0.05	0.03
Nepal	135,119	0	0	0.00	0.00
Yemen	83,596	169	0	0.20	0.00
Maldives	37,377	1	0	0.00	0.00
Afghanistan	23,813	0	0	0.00	0.00
Bhutan	552	0	27	0.00	4.89
Total	12,859,883	3,658	60,670	0.03	0.47
Total-ACP	8,634,365	3,344	60,596	0.04	0.70
Total Non-ACP	4,225,518	313	74	0.01	0.00

Source: Brenton (2003).

exports to the EU for a range of developing countries. The average is 0.03 per cent and no country is higher than one per cent, indicating that the amount of products involving preferences is a small fraction of total exports and that the erosion of preferences is unlikely to have a significant affect on these countries.

The table also reports the proportion of exports in a group of vulnerable industries, including bananas, rice, and sugar (final column). The share of these goods in total exports is quite large for a small group of countries, reaching a peak of 11.6 per cent in Malawi. Unfortunately, tariffs on these goods were not eliminated immediately under the EBA in 2001, but will gradually be phased out by 2009. In these critical goods, the increased preference margin potentially has a large effect on exports and, conversely, the erosion of these preferences by MFN tariff reduction could have a large negative effect on these countries.

Addressing the problems of adjustment in critical industries in vulnerable countries should be a key component of any multilateral reform proposal. There are many examples of critical

industries—particularly in small countries—which face highly negative consequences from preference erosion.

Assistance for critical industries and their workers is a preferred solution to the maintenance of preference margins. There are two reasons to prefer assistance to delayed MFN liberalization. First, delayed liberalization discriminates against developing countries which do not benefit from preferences. The second reason for preferring assistance is that the maintenance of long-term preferences induces beneficiaries to specialize in activities in which they may never be competitive once preferences are removed. This discourages industrial diversification and increases adjustment costs when the preferences are eventually removed.

At the same time, it should be recognized that sometimes, providing even temporary preferential access can provide long-term gains. By excluding some critical products (particularly bananas, rice, and sugar) from immediate zero tariff under the EBA in 2001, the EU may be missing the opportunity to provide these industries with a foothold in their markets in advance of MFN liberalization.[18]

Fiscal effects

In some countries tariff revenues make up a substantial part of total government revenue. Many of these countries are concerned that trade liberalization will have a significant adverse effect on public revenue and the ability to fund public expenditure.

Taxes on international trade account for around one per cent of government revenues in developed countries and around 30 per cent in the least developed countries. Small countries are the most reliant on tariffs. For example, tariffs make up 62 per cent of tax revenue in the Bahamas, 54 per cent in the Solomon Islands, and 75 per cent in Guinea (Ebrill, Stotsky, and Gropp 1999). Figure 13.2 shows the ratio of tariff revenue to GDP for five country groups. African governments are most reliant on revenue from tariffs, followed by Middle

[18] Though, to be sure, for some of these products, it is unlikely that there will be MFN liberalization any time soon. Moreover, market 'loyalty' is likely to be less important in 'commodity' trade than in trade in manufactures.

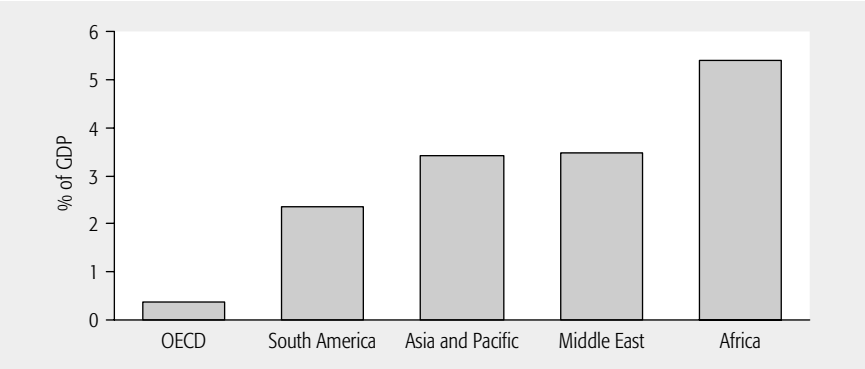

Figure 13.2. **Average tariff revenue, 1995 (% of GDP)**
Source: Ebrill, Stotsky, and Gropp (1999).

Eastern and Asia/Pacific countries. Table 13.7 shows tariff revenue as a proportion of GDP for 8 countries. The table demonstrates that changes in tariff revenue resulting from trade reform have wildly disproportionate effects on developing countries.

The complete elimination of tariffs would, of course, reduce tariff revenue to zero. This scenario would require developing countries to change fundamentally the structure of their taxation systems, to raise revenues from other sources.

However, in practice the effect of less ambitious trade liberalization on government revenues is more complex. If government replaces tariffs with, for instance, a uniform VAT imposed at the point of production—and for imported goods, at the point of importation—then the only difference is that tariffs would be taxed at a uniform rate (and domestic production would be taxed at the same rate). Typically, governments also provide an export rebate, so that the import content of exported goods is effectively tax-exempt. Moreover, trade liberalization often involves a range of reforms other than tariff reductions, such as the elimination of trade-related subsidies and the 'tariffication' of non-tariff barriers. Many of these reforms could increase government revenues (see Table 13.8).

For these reasons the effect of trade liberalization on government revenues is difficult to predict. Senegal pursued trade liberalization in the mid-1980s, following which there were large revenue shortfalls. Lost tariff revenue combined with slow growth in trade volumes and

Table 13.7. **Tariff revenue for selected countries, 1995 (% of GDP)**

OECD		Asia/Pacific		South/Central America		Middle East		Africa	
Average	0.37	Average	3.42	Average	2.36	Average	3.48	Average	5.39
Australia	0.65	Fiji	4.95	Argentina	0.70	Bahrain	2.79	Botswana	5.85
Austria	0.14	India	2.76	Bahamas	8.32	Egypt	3.59	Burundi	2.51
Belgium	0.52	Indonesia	1.03	Bolivia	1.05	Iran	2.34	Cameroon	2.56
Canada	0.42	Korea	1.32	Brazil	0.46	Israel	0.19	Congo, Democratic Republic of	1.33
Denmark	0.20	Malaysia	3.04	Chile	2.20	Jordan	7.74	Côte D'Ivoire	6.17
Finland	0.23	Myanmar	0.89	Colombia	1.43	Kuwait	0.95	Ethopia	2.30
France	0.13	Nepal	3.00	Costa Rica	2.97	Morocco	4.27	Gabon	4.47
Germany	0.21	Papua New Guinea	3.85	Dominican Republic	3.80	Oman	0.95	Gambia	8.76
Greece	0.23	Philippines	4.96	Ecuador	1.64	Pakistan	4.88	Ghana	3.37
Iceland	0.38	Singapore	0.35	El Salvador	2.12	Syria	2.48	Kenya	3.94
Ireland	0.51	Solomon Islands	11.43	Guatemala	1.87	Tunisia	8.14	Lesotho	32.27
Italy	0.15	Sri Lanka	3.68	Nicaragua	5.25			Malawi	3.02
Japan	0.21	Thailand	3.15	Panama	2.62			Mauritius	6.74
Mexico	0.61			Paraguay	1.75			Rwanda	3.22
Netherlands	0.59			Peru	1.54			Senegal	4.81
New Zealand	0.92			Uruguay	0.96			Sierra Leone	3.62
Norway	0.30			Venezuela	1.39			South Africa	0.18
Portugal	0.28							Zambia	3.06
Spain	0.19							Zimbabwe	4.30
Sweden	0.27								
Switzerland	0.33								
Turkey	0.76								
UK	0.35								
US	0.27								

Source: Ebrill, Stotsky, and Gropp (1999)

weaknesses in economic management led to dire fiscal consequences. To raise more revenue, the tariff reductions were quickly abandoned and the liberalization process delayed. By contrast, trade liberalization in Morocco was accompanied by programs to broaden the domestic tax base, including the introduction of a VAT in 1986. As a consequence, Morocco was able to reduce its reliance on trade taxes while maintaining a stable ratio of public revenue to GDP.

The desirability of replacing revenue from trade taxes with domestic revenue sources raises the issue of relative efficiency of alternative

Table 13.8. **Summary of Effect of Trade Liberalization on Revenue**

Trade reform	Expected revenue effect
Replace NTBs with tariffs	Positive
Eliminate tariff exemptions	Positive
Eliminate trade-related subsidies	Positive
Reduce tariff dispersion	Ambiguous/Positive
Eliminate state trading monopolies	Ambiguous/Positive
Reduce high average tariffs	Ambiguous
Lower maximum tariff	Ambiguous
Eliminate export taxes	Ambiguous/Negative
Reduce moderate or low average tariffs	Negative

Source: Sharer *et al*. (1998)

forms of taxation. There is some theoretical evidence suggesting that reducing trade taxes and replacing them with a consumption tax is welfare-enhancing (Keen and Lightart 1999) on the basis that they are broader and less distortionary. More recently, however, Emran and Stiglitz (2004) have shown that in developing countries with an informal sector in which, say, a VAT cannot be imposed, it is desirable to retain some trade taxes, e.g. to tax imports at a higher rate than domestic production.

The issues of complementary policies to minimize the fiscal effects of trade reforms will be taken up later in the chapter.

The main point in this section is that global trade reform has significant consequences for the fiscal structures of developing countries, whereas developed countries are by and large immune. Developing countries are likely to suffer either a loss of total tax revenue or, at best, a large administrative cost—and even more economic distortions—associated with the implementation of a new taxation system.

Implementation costs

While traditional market access agreements such as tariff and quota reductions incur small implementation costs, the 'new' trade agenda embodied in the Uruguay Round and even more in the

Singapore Issues may impose a much larger implementation burden. Implementation costs are another example of how WTO agreements may have different impacts on poor and rich countries. Compliance with WTO agreements is harder for developing countries, whose administrative systems usually require larger reform to meet agreed standards. In addition, developing countries have the weakest government institutions and the greatest constraints on public resources. Implementation of an agreement incorporating the Singapore Issues would require expenditure on system design and drafting of legislation; capital expenditure on buildings and equipment; personnel training; and the ongoing costs of administration and enforcement.

Finger (2000) points out that the implementation of regulatory agreements will often draw money from the development budgets of poor countries. For this reason such agreements should be analysed in terms of their rate of return and compared to the alternative development priorities on which the same money could be spent. Finger estimated the implementation of three of the Uruguay Round's six agreements that required regulatory change (customs reform, intellectual property rights, and sanitary and phytosanitary (SPS) measures). His analysis suggests that the average cost of restructuring domestic regulations in the twelve developing countries considered could be as much as $150 million. In eight of these countries this figure is larger than the entire annual development budget.

Many developing countries have been unable to meet their Uruguay Round obligations because of these high costs. By January 2000, up to 90 of the WTO's 109 developing country members were in violation of the SPS, customs valuation, and TRIPS agreements. Estimates of the cost of compliance with the Uruguay agreements vary widely depending on the quality of the existing systems and the strength of institutions in each country. Hungary spent more than $40 million to upgrade the level of sanitation of its slaughterhouses alone. Mexico spent more than $30 million to upgrade intellectual property laws. Finger (2000) suggests that for many of the least developed countries in the WTO compliance with these agreements is a less attractive investment than expenditure on basic development goals such as education.

The costs of implementing the regulatory agreements that could potentially emerge from the Doha Round will vary widely across countries. However, many of the proposed reforms within the Singapore Issues could be costly. For example, were there to be new competition regimes (which seems unlikely), such regimes would be difficult to implement. Competition law is technical and requires institutional skills and resources that are in short supply in many developing countries. In addition, competition law enforcement is expensive. OECD and national sources indicate that the annual budget of the antitrust office in OECD countries is in the $15–50-million-plus range. For developing countries with enforcement agencies the budgets are lower but still significant (Hoekman and Mavroidis 2002).[19]

Similarly the costs of trade facilitation could be large for some countries. For example, the World Bank assisted Tunisia in its program of streamlining and modernizing its customs procedures. The total value of World Bank loans to Tunisia for this purpose was US$35 million in 1999. Similarly the World Bank lent $38 million to Poland for upgrading the physical and managerial infrastructure of its port facilities (Wilson 2001). Projects to implement the WTO Agreement on Customs Valuation, which also includes broader customs reform, have been estimated to cost between $1.6 million and $16.2 million. For example, a six-year program in Tunisia to computerize and simplify procedures cost an estimated $16.2 million (Finger and Schuler 2000). However, Bolivia implemented a broad customs reform programme that cost $38.5 million.

The size of the implementation costs associated with the Singapore Issues raises questions about the appropriateness of their inclusion in the Doha agenda. The important lesson from the Uruguay Round is that regulatory changes imposed a large and (in the case of the many non-compliant countries) unacceptable burden on developing countries. The rules seemed to be constructed with little awareness of development problems and little appreciation for the institutional capacities of least developed countries.

[19] Note, for example, the costs of antitrust offices in Mexico ($14 m), Poland ($4.1 m), Hungary ($2 m), and Argentina ($1.4 m). There are doubts about whether these sums provide adequate enforcement.

Poverty and labor markets

It is not an easy task to identify social groups who systematically suffer as a result of trade liberalization. Heterogeneous trade patterns and factor endowments across countries mean that similar reform scenarios would have different effects on similar social groups in different countries, and hence the consequences of reform are often masked in cross-country data.

Predicting which social groups in which countries will be detrimentally affected by trade reform is a task that defies generalizations about the consequences for 'the poor'. Instead, identifying the losers from trade reform requires analysis of the particular effects on different groups stratified by income source and expenditure patterns.

There are a variety of effects on workers—both wages and unemployment rates may be affected; and the effects in the short run may differ markedly from the effects in the long run. In the short run, there are a number of reasons that markets do not adjust quickly, so that the impact of liberalization is that workers lose jobs; and job loss occurs faster than job creation. This is especially the case in developing countries, where financial markets are weak (so that firms cannot quickly take advantage of any new opportunities that a new trade agreement opens up); or when the country has a tight monetary policy (e.g. as part of a so-called structural adjustment program). But even if job creation matches job destruction, the new jobs may require different skills, and may be created in different locales. Typically, dislocated workers, even in advanced industrial countries with low unemployment rates, suffer marked reductions in their wages (part of which, but only a part, may be explained by a loss of rents from being in a protected sector).

Economic theory suggests that if the economy manages to remain at full employment then trade liberalization will tend to lead to factor market price equalization, i.e. higher wages for unskilled labor in less developed countries and lower wages in developed countries. Incomes on average may increase, as countries are able to exploit their comparative advantage. But even this conclusion has been questioned, as attention has focused on the consequences of market imperfections, such as imperfect competition or incomplete risk

markets. For instance, as Newbery and Stiglitz (1982) showed, trade liberalization may make everyone worse off when risk markets are limited.

Even when trade liberalization leads to increased efficiency, it is a one-off effect. It does not necessarily lead to sustained increases in the rate of growth of productivity; and indeed, if trade liberalization is associated with greater volatility, there is the possibility that it will actually lead to slower productivity growth.

A number of empirical studies have, nonetheless, tried to argue that trade openness leads to increased productivity growth (e.g. Sachs and Warner 1995; Sala-i-Martin 1997); and there is also evidence that increased productivity growth leads, in the long run, to increased wages (though there may be differential effects on the wages of particular groups, even negative effects). However, both of these relationships are controversial (Rodriguez and Rodrik 2000). Part of the problem with the studies focusing on the relationship between trade openness and productivity growth is that they are beset by a host of econometric and interpretive problems. Openness itself, for instance, is an endogenous variable, particularly as it is often measured (e.g. as ratio of trade to GDP.)

An example of the problems in interpretation is provided by a recent study by Rama. Rama (2003) classifies seventy countries into three groups: rich countries, non-globalizers (not yet fully integrated into the international market), and recent globalizers.[20] Figure 13.3 reports the growth rate of the average wage between the 1980s and the 1990s for a set of common occupations. He suggests that this implies that openness is good for workers, at least at an aggregate level. But the countries that are not integrated into the international market include those with a host of other problems—African countries, for instance, facing civil strife or the AIDS epidemic. These other circumstances (inadequately controlled for in the statistical analysis) may provide more of an explanation for the poor performance—in trade, growth, productivity, and wages—than 'trade openness'.

Francois, van Meijl, and van Tongeren (2003) use a general equilibrium framework to analyse the effects of three alternative

[20] Rama uses the three-group classification proposed by Dollar and Kray (2001).

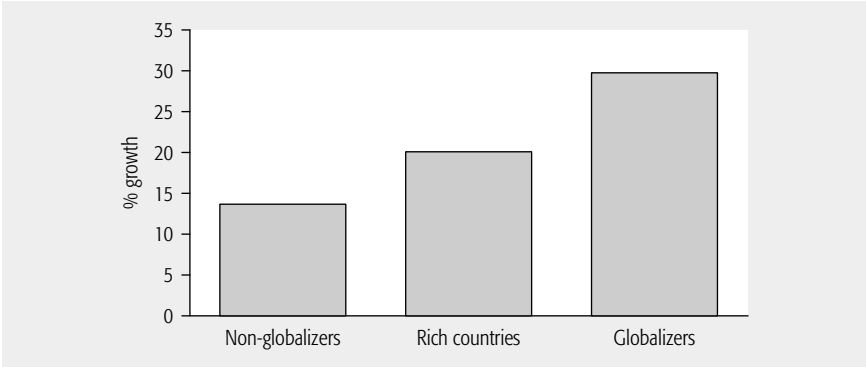

Figure 13.3. **Wage growth by country groups, 1980s–1990s**
Source: Freeman, Oostendorp, and Rama (2001).

liberalization scenarios, representing a range of possible outcomes from the Doha Round.[21] The pattern of unskilled wage changes across countries is illustrated in Fig. 13.4. Wages increase for all countries with the exception of China and some Central and Eastern European countries. China is hurt because the authors build China's full accession to the WTO into their baseline. Further global liberalization increases competition for exports and reduces world prices for low-skill manufactures. The effect of liberalization increases over time and the more ambitious the reform scenario, the larger the benefits. But as we noted earlier, these general equilibrium models need to be used with caution. They typically do not incorporate a host of market imperfections that characterize developing countries, and they almost never incorporate dynamic changes (e.g. those associated with the adoption of new technologies). China may be in a better position to grab and maintain market share than other developing countries, in which case the results could be quite the opposite.

Average wage data may conceal more complex effects of trade liberalization. Disaggregated analysis reveals that workers in some sectors may gain while others lose. If inequality rises sufficiently,

[21] Experiment 1 models a linear 50% reduction in all forms of protection, including agricultural and industrial tariffs, export subsidies, OECD agricultural domestic support, and tariff-equivalent barriers. Experiment 2 models a 'Swiss formula' reduction in which the maximum tariff is reduced to 25% (see Francois and Martin 2003). Experiment 3 models a complete elimination of protection.

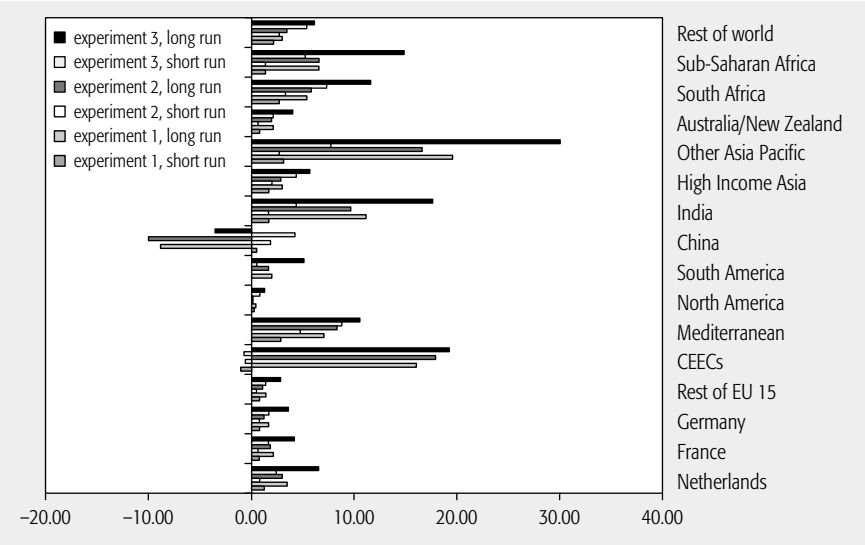

Figure 13.4. **Changes in unskilled wages resulting from three liberalization alternatives within the Doha Round**

Source: Francois, van Meijl, and van Tongeren (2003).

the poor's gain from overall per capita income may be offset. Certainly there are many well-known cases of countries where inequality has risen as they have become more integrated into the world economy. Inequality increased in Argentina, Chile, Colombia, Costa Rica, and Uruguay after they liberalized trade at different times (World Bank 2000). The decade following the signing of NAFTA saw real wages in Mexico fall, even as trade increased.[22]

These results seem to contradict standard economic theory (the Samuelson–Stolper theorem), which predicts that in countries with a relative abundance of unskilled labor, trade liberalization should result in a reduction in inequality. But this re-emphasizes the points made earlier—the importance of market imperfections, including the absence of risk markets, and dynamic effects. In some cases, trade liberalization has exposed countries to more risk, and the poor often bear the brunt of such risk. In other cases, greater global

[22] Such data does not, of course, address the counterfactual: what would have happened *but for* the trade agreement? But it certainly shows clearly that trade liberalization by itself is no guarantee of improved living standards for workers.

integration leads to an increased transfer of technology, and if these include unskilled-labor-saving innovations, they may well lead to a lowering of unskilled real wages.

As Fig. 13.5 indicates, while there does not appear to be a strong relationship between income and wage inequality and openness,[23] different types of liberalization shocks have different effects on different income groups. For example, there is considerable evidence that financial liberalization can expose an economy to shocks which are particularly pernicious for the poor. Levinsohn, Berry, and Friedman (1999) examine how the 1997–8 Indonesian economic crisis affected the poorest households. Through a cost-of-living analysis they concluded that the lowest-income households tended to be hurt the most. By contrast, Minot and Goletti (2000) analyse the effects of another kind of liberalization shock on the well-being of the poor. They examine how rice market liberalization in Vietnam (principally the removal of quota restrictions) may affect poverty

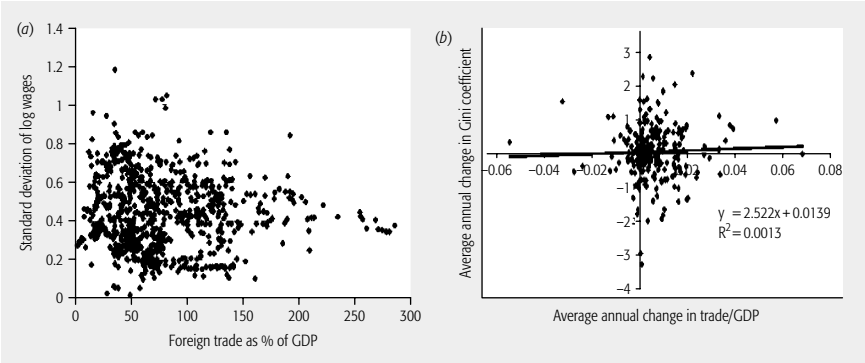

Figure 13.5. **Liberalization and inequality**
(*a*) Wage dispersion and openness to trade

Source: Rama (2003).

(*b*) Change in trade and inequality

Source: Dollar and Kray (2001).

[23] Rama (2003) argues that wage inequality across occupations does not increase with openness. Others (e.g. Dollar and Kray 2001) have suggested that there is no discernible relationship at the country level between trade openness (measured by trade volumes) and inequality (measured by the Gini coefficient). However, as noted earlier, openness (as measured) is an endogenous variable, so that the results have limited value in providing inferences concerning the effects of a change in policy, such as liberalization.

levels. They find that liberalization raises prices and that since rice production is relatively labor-intensive in Vietnam, a rise in prices increases the demand for agricultural labor and consequently the agricultural wage rate. They find that the net effect on real incomes in rural areas is generally positive and reduces most measures of poverty. These examples serve to indicate that different liberalization programs may have different effects on poverty which are masked in cross-country data.

These examples make clear that a full analysis of the impact on poverty must look at impacts on unemployment, factor prices, and goods prices. As previously noted, computable general equilibrium (CGE) models are frequently used to analyse the effects of trade liberalization on factor and consumer prices across countries. Unfortunately, they seldom incorporate risk and unemployment, which play an important role in generating poverty. In addition, most of these models consider the welfare change for a single representative household in each region, making them a poor tool for the analysis of poverty. Hertel, Ivanic, Preckel *et al.* (2003*a*) augment the standard type of CGE analysis by adding several different types of households categorized by their income source into households whose primary source of income is from (1) transfers, (2) agriculture, (3) non-agricultural business, (4) wages, or (5) diversified sources. They use survey data for several countries to include information on the income and expenditure profile of each group. This framework allows them to look at the effects of trade liberalization at a sub-national level to discover vulnerable populations within countries whose plight might have been masked in national-level data.

They find that poverty rates do not fall uniformly within countries. Table 13.9 shows the model's price change predictions for Indonesia (Hertel, Ivanic, Preckel *et al.* 2003*a*). Increased demand for Indonesia's exports bids up their price relative to the world average. The home price of commodities rises (see the short run total column) as other countries reduce their protection and the EU and US reduce the supply of subsidized exports (see the Liberalization by DCs column). The price rise is not offset by the cuts in the relatively modest Indonesian agricultural tariff rates (Own-country liberalization column). By contrast the prices of manufactured goods (durables and

Table 13.9. **Effect of global trade liberalization on market prices in Indonesia (% change)**

	Short run							Long run	
	Own-country liberalization		Liberalization by DCs		Liberalization by LDCs		Total		Total
	Agricultural	Non-agricultural	Agricultural	Non-agricultural	Agricultural	Non-agricultural			
Factors									
Agricultural Profit	−0.8	−1.7	3.9	2.0	0.1	0.0	3.5	Land	5.3
Non-Agricultural Profit	−0.3	−0.1	1.5	3.2	0.1	−0.3	4.1	Capital	5.0
Unskilled labor	−0.4	0.0	2.1	3.4	0.1	0.1	5.3	Unskilled wages	6.1
Skilled labor	−0.4	0.1	1.6	3.3	0.1	0.1	4.8	Skilled wages	5.3
Public transfers	−0.5	−0.2	2.0	3.1	0.1	−0.2	4.4	Public transport	5.7
Private transfers	−0.5	−0.2	2.0	3.1	0.1	−0.2	4.4	Private transport	5.7
Producer prices									
Staple grains	−0.5	0.1	3.4	2.6	0.1	−0.3	5.4	Staple grains	7.1
Livestock	−1.4	0.2	2.5	2.3	−0.3	−0.3	3.0	Livestock	5.3
Other food	−1.3	0.8	5.0	1.7	0.5	−0.7	6.1	Other food	6.3
Non-durables	−0.1	−3.7	0.7	2.8	−0.1	−0.7	−1.2	Nondurables	0.7
Durables	0.0	−9.8	0.1	1.3	−0.1	−0.4	−8.8	Durables	−9.7
Services	−0.2	0.8	1.3	2.4	0.0	−0.1	4.2	Services	5.8
Margin services	−0.2	0.8	1.3	2.4	0.0	−0.1	4.2	Margin services	5.8
Consumer prices									
Staple grains	−0.4	0.2	3.1	2.5	0.1	−0.3	5.2	Staple grains	6.8
Livestock	−1.2	0.3	2.3	2.3	0.1	−0.6	3.2	Livestock	5.4
Other food	−1.1	0.8	4.5	1.8	0.2	−0.3	5.9	Other food	6.2
Non-durables	−0.1	−3.0	0.8	2.8	0.0	0.7	−0.3	Non-durables.	1.6
Durables	−0.1	−2.2	1.0	2.1	0.1	−0.2	0.5	Durables	1.4
Services	−0.2	0.8	1.3	2.4	0.1	−0.1	4.2	Services	5.8

Source: Hertel, Ivanic Preckel *et al*. (2003*a*: table 5).

non-durables) fall as a consequence of liberalization by other LDCs and tariff cuts, leading to a large change in the relative prices of food and manufactures.

Turning now to the effects of these price changes on poverty, Table 13.10 shows both the short-run and long-run consequences of these price changes on the head–count ratio for each income group. The total column indicates that poverty falls by 1.5 per cent in the short run and 1.1 per cent in the long run. However, the changes are not uniform across social groups. The increase in the relative price of agricultural goods causes a sharp decline in poverty (2.8 per cent) in poverty among the group deriving its income from agricultural goods. By contrast the poverty headcount among the non-agriculture group (perhaps this could represent the urban poor) actually increases. The table indicates that a major cause of this is the liberalization of agriculture by developed countries, the effect of which is

Table 13.10. **Effect of global trade liberalization on poverty in Indonesia (% change in headcount across social strata grouped by primary income source)**

		Primary income source					
Short-run effects of		Agriculture	Non-agriculture	Labor	Transfer	Diverse	Total
Own-country liberalization	of agricultural goods	1.3	−0.9	−0.7	−0.3	0.3	0.5
	of non-agricultural goods	1.7	0.7	−0.4	0.3	10.9	1.1
Liberalization by DC's	of agricultural goods	−4.1	3.5	2.9	1.6	−0.7	−1.1
	of non-agricultural goods	0.1	−1.5	−2.4	−1.0	−0.8	−0.7
Liberalization by LDC's	of agricultural goods	−1.7	0.4	0.3	0.0	−0.7	−0.8
	of non-agricultural goods	−0.1	−0.3	−1.3	−0.4	−0.4	−0.3
Total short-run change in poverty		−2.8	1.8	−1.6	−0.2	−1.4	−1.5
Long-run change in poverty		−0.9	−1.1	−1.5	−0.3	−1.2	−1.1

Source: Hertel, Ivanic, Preckel *et al*. (2003*a*: table 6).

to increase poverty by 3.5 per cent as a consequence of the relative price changes described above. For Indonesia, the population in the two income categories that lose (transfer and non-agricultural) makes up just 14 per cent of the poor. Consequently national poverty falls as a result of global trade liberalization in Indonesia.

Table 13.11 shows Hertel, Ivanic, Preckel *et al.*'s (2003*b*) findings for several countries. They suggest that multilateral trade liberalization will increase the poverty headcount in Thailand, Peru, and Venezuela and reduce it in all the other countries except Zambia, which experiences no change. In Brazil, for example, poverty rises for the non-agricultural and labor strata, which together accounts for more than 45 per cent of the poverty headcount, but poverty falls amongst the agriculture group, which comprises 25 per cent of the poor population. However, since the gains in agriculture are so large a high proportion of the group leaves poverty, causing an overall reduction in national poverty.

While, for reasons already explained, computable general equilibrium models need to be used with considerable caution, the detailed

Table 13.11. **Effect of global trade liberalization on poverty for 14 developing countries (% change in number of poor, relative to total population)**

	Primary income source					
Country	Agriculture	Non-agriculture	Labor	Transfers	Diverse	Total
Bangladesh	−0.4	−0.4	0.1	−0.1	−0.1	−0.1
Brazil	−11.4	2.9	1.2	0.1	−2.2	−2.4
Chile	−25.0	3.4	2.3	0.7	−2.4	−3.9
Colombia	−8.9	0.5	1.0	−0.1	−2.1	−2.2
Indonesia	−2.8	1.8	−1.6	0.2	−1.4	−1.5
Malawi	−2.6	0.4	−0.7	−0.2	−2.5	−2.0
Mexico	2.5	−0.8	−0.7	−0.2	0.2	−0.2
Peru	2.2	1.1	3.9	0.6	1.8	1.4
Philippines	−5.2	1.1	−0.9	0.0	−3.0	−3.1
Thailand	−0.2	13.6	8.8	6.9	4.9	5.7
Uganda	−0.2	−0.8	−0.7	−0.2	−0.5	−0.5
Venezuela	−9.1	0.6	0.8	0.1	0.5	0.3
Vietnam	10.9	−16.0	−11.1	−3.8	−6.1	−5.6
Zambia	0.0	−0.1	0.2	0.0	−0.1	0.0

Source: Hertel, Ivanic, Preckel *et al.* (2003*b*: table 8).

analysis provided by Hertel *et al*. highlights the differential effects on different groups, and the fact that, while some individuals may be lifted out of poverty, others will be forced into it. Certainly, the distributional impacts cannot be ignored.

Policies to minimize the costs of adjustment

Trade liberalization can contribute to increased economic growth in the long run. However, in the short run some social groups in developing countries may be negatively affected by changes in the prices of the goods they consume and produce. Trade reform must therefore be designed in conjunction with a range of complementary polices to protect vulnerable social groups.

This section provides a brief survey of some of the main policies that have been proposed to mitigate the effects of adjustment on developing countries.

Social safety nets and credit markets

Even if the adjustment costs are quite small and short-lived, the extremely poor in many LDCs may be incapable of sustaining themselves for short periods because of a lack of savings and the unavailability of credit and insurance. For this reason one of the most important components of trade reform is an effective social safety net.

Workers in industries which experience a negative shock through lower foreign demand from lost exports, or lower domestic demand as a result of increased competition from imports, may require funding if they lose their jobs in the adjustment process. Unemployment benefits can enhance adjustment by giving workers the funds necessary to search for alternative employment in different industries or locations. Many developed countries already have comprehensive safety nets, but developing countries will require assistance.[24]

[24] Such assistance can also increase economic efficiency, by allowing workers to continue searching until they find a job which better matches their skills.

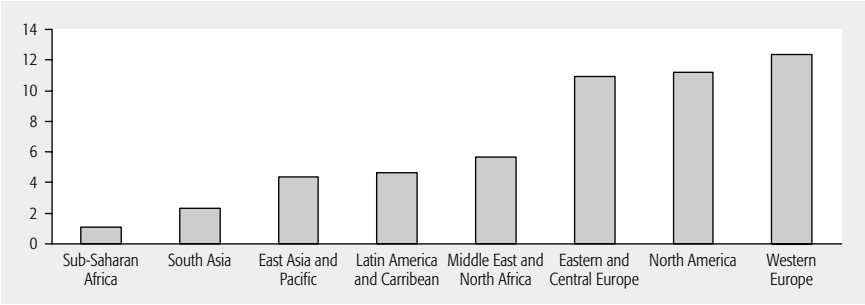

Figure 13.6. **Expenditure on social security and welfare (% of GDP)**
Source: Besley, Burgess, and Rasul (2001).

Figure 13.6 shows the average social security expenditure for several regions. The poorest countries are not able to spend enough to make their programs effective and will require international assistance to meet the adjustment needs of trade reform.

Firms may also require assistance. Companies may need to make adjustment-related investment in order to cope with new market forces. In developing countries where capital markets are less sophisticated, firms may be credit-constrained[25] even if they would be able to pay back the loans. The World Bank (1997) has reported that lack of access to finance for new investments was the most severe constraint small firms in Ghana faced after trade reforms in 1983. Changes in relative prices resulting from liberalization will have short-run effects on cash flows that will differ across firms, with the result that even if *on average* these cash flows improve, the adverse effects on the losers can more than offset the positive effects on the winners (See Greenwold and Stiglitz 1993).

Technical assistance

The Uruguay Round Decision on Measures in Favor of Least Developed Countries called for 'substantially increased technical assistance in the development, strengthening and diversification of

[25] Even in developed countries, small and medium-sized businesses often face severe credit constraints.

their production and export bases including those of services, as well as in trade promotion'.

If the global gains from trade liberalization are as large as some researchers suggest—the World Bank estimates that further liberalization could yield an increase in real income by 2015 of more than US$500bn[26]—then it is reasonable to enshrine a principle of compensation whereby those countries that suffer significant adjustment costs relative to welfare gains should receive offsetting assistance.

A principle of compensation is important for at least two reasons. First, if the 'development focus' of the Doha Round is to have any meaning, then WTO members must be mindful of the fact that the cost of adjusting to their agreements will have serious consequences for development. Not only do adjustment costs fall particularly harshly on the poorest people in the world because they are least able to afford them, but the costs also consume resources that would otherwise be spent on alternative development priorities. For many people, the impact of trade reform will overwhelm the effects of other economic development programs.

The second motivation for the provision of compensation for adjustment costs is the pragmatic need to win political support for reform. High adjustment costs give some groups a vested interest in the status quo. Identifying and compensating those groups may be an effective way of removing impediments to welfare-improving global policy changes.

The purpose of technical assistance is to improve the trade performance of developing countries through policy and strengthening of institutions. A systematic review of technical assistance efforts is beyond the scope of this chapter. In this section we note some of the trends and limitations of existing programs and the need for more wide-ranging support.

The responsibility for technical assistance has fallen largely on international organizations. Both the World Bank and the WTO have increased their technical cooperation activities. However, as much

[26] The World Bank estimates that further liberalization of trade can generate up to US$500bn in static and dynamic gains by 2015 (World Bank 2003). These estimates assume the elimination of agricultural export subsidies and domestic support, a tariff ceiling of 10% for agricultural products and 5% for manufacturing in OECD countries, and a 15% ceiling for agricultural products and 10% for manufacturing in developing countries.

as 90 per cent of financing for these activities comes from trust funds provided by two or three bilateral donors, while the WTO itself has typically allocated for technical cooperation activities less than one per cent of its total annual budget—less than half a million US dollars (see Michalopoulos 2000).

Trade-related technical assistance is often provided to assist governments to implement existing agreements. This assistance is often conceived by the provider and 'supply-driven' and is not related to the overall priorities of the beneficiary (Prowse 2000). In addition, technical assistance needs to be pro-active. It should strengthen the recipient country's ability to determine its own development priorities and influence the outcome of WTO agreements.

A third useful expansion of technical assistance would extend its scope towards ensuring that developing countries have access to equal protection under the WTO's dispute settlement system. Lack of institutional capacity limits developing countries' ability to present and defend cases in the dispute systems, making those systems manifestly unfair in practice. Developing countries are disadvantaged in complex and expensive legal proceedings. An expansion of existing legal assistance schemes will be an important prerequisite for institutional fairness.

The WTO Singapore Ministerial Conference in 1996 mandated a more 'integrated approach to assisting LDCs to enhance their trading opportunities'. In 1997, the Integrated Framework for Trade-related Technical Assistance (IF) was launched with a view to building trade capacity in developing countries (see Table 13.12). The IF attempts to pull together the resources of several international agencies to increase the scope and value of trade-related technical assistance. It also attempts to redress some of the common criticisms of such assistance by ensuring that such assistance is demand-driven, that it matches the specific needs of each LDC, and that it enhances rather than undermines each LDC's ownership of trade-related technical assistance (UNCTAD 2002). Trade-related technical assistance activities are broadly defined as:

- enhancing government institutions to manage trade policies
- assistance to create supportive trade-related regulations and policy

Table 13.12. **Trade-related assistance provided by multilateral agencies**

Organization	Activities
IMF	Trade policy advice provided in the context of country surveillance and/or program support, and considered in a broader economic and social framework. Normally will include an assessment of the key complementary policy requirements to support in-country trade reform– notably in fiscal policy and the adequacy of social safety nets. Trade-related technical assistance focused primarily on trade facilitation issues (customs administration) but also on collation of data on external trade.
ITC	Emphasis on enterprise-oriented aspects of trade policy and trade promotion such as business implications of multilateral and regional agreements, private sector involvement in trade policy, and management of regulation-related issues by businesses. Hands-on training, assistance in data collation, analysis, and institutional matters to favor private sector capability in trade policy-making, managing of regulatory issues in trade, and compliance.
UNCTAD	Policy analysis on trade and investment–advocacy of developing country interests. Analysis of trade policy options in the context of economic development. Trade-related technical assistance includes training and support in trade negotiations and implementation of commitments, accessions advice, and customs administration.
UNDP	Trade policy options considered in the broader context of economic and social development. Complementary policy analysis to support trade reform. Sector-specific trade assistance in areas such as agriculture, fisheries, tourism, and textiles. Private sector engagement in trade policy-making.
World Bank	Trade issues are considered in a broader economic and social context of development and investment-related policies. Creation and dissemination of a core knowledge base that combines policy-relevant research, advocacy, capacity-building, training, and operational support for trade at the country level, including networking to link think tanks and trade policy makers within a country.
WTO	Emphasis on the WTO agreements. Factual information on WTO rights and obligations of developing countries and progress in trade negotiations. Training and consultation to assist developing country members in applying the WTO agreements and using the WTO mechanisms.

Source: Prowse (2002).

- strengthening export supply capabilities
- strengthening trade support and trade facilitation capabilities

In the initial phase of the implementation of the IF, the trade assistance needs of Forty LDCs were advanced. After limited success

several problems were identified with the IF approach. There had been a substantial failure to put trade-related development issues at the centre of national, agency, and donor priorities. At the country level, national needs were selected without sufficiently broad consultation. At the donor and agency level, insufficient attention was given to integrating trade issues into the wider development agenda.

In 2001 an enhanced IF program was adopted with a view to embedding trade-related capacity building into countries' overall development strategies through their national Poverty Reduction Strategy Papers (PRSPs). For this purpose, 'trade integration studies' were commenced for a group of pilot countries. This strategy has the distinct advantage of increasing the level of 'ownership' by LDCs.

The above list of trade-related assistance activities, however, is inadequate in scope compared to what is needed. For instance, monetary policies or structural adjustment programs advocated by the IMF may adversely affect the flow or affordability of finance to facilitate the restructuring of the economy in response to liberalization. While much of the technical assistance is designed to enhance the ability of countries to design their own programs aimed at adapting and responding to a new trade agreement, conditionalities associated with various forms of financial assistance may give them less scope for doing so. Moreover, advice concerning how to cope with the reduction of tariff tax revenues arguably reflects an inadequate understanding of the nature of developing countries (e.g. the importance of the hard-to-tax informal sector) and, as a result, leads to tax structures which have adverse effects on growth and development.

Capturing the benefits of liberalization for LDCs

Market access on its own is not sufficient to bring the benefits of trade to developing countries. The UN Secretary General noted in response to the European Union's 'Everything but Arms' initiative that 'the LDCs have neither the surplus of exportable products nor

the production capacity to take immediate advantage of new trade opportunities. They will need substantial investment and technical assistance in order to expand their production'[27]. Certainly, the limited increase in exports in the affected commodities from the least developed countries to Europe is consistent with these concerns.

There can be no doubt among WTO members that tariff reductions must be accompanied by concerted efforts to ensure that poor producers are able to capitalize on new trading opportunities. In particular, the Development Round faces the challenge of dealing with two of the largest impediments to LDC export growth: supply constraints and product standards.

Supply constraints

Increased market access might generate a disappointing supply response from many LDCs. In the context of low productive capacity, a deficient policy environment, poor infrastructure, poor access to technology, and missing/imperfect markets (especially financial markets), liberalized markets will not stimulate the required development to take advantage of new trading opportunities.

There has been some attention given to this issue within the WTO. The final Declaration of the WTO Doha Ministerial meeting—which was warned by the G77 countries about the lack of technical assistance in recent years—reiterates the importance of technical assistance and 'reaffirms . . . the important role of sustainably financed technical assistance and capacity-building programmes' (para. 41).

Easing supply constraints requires a broader interpretation of the responsibilities covered by technical assistance, i.e. more than bolstering public institutions. While public sector capacity-building is an important objective, it is not a substitute for programs to enhance the capacity of the private sector to develop into new markets.

A key component of private sector development is improved access to finance—to take advantage of new opportunities for exports, there

[27] Quoted in *The Financial Times*, 5 Mar. 2001.

must be export finance. In countries with underdeveloped financial sectors, inadequate finance is a major constraint inhibiting exports. To the extent that the poor are involved in trading activities, they may face special difficulties in obtaining access to the trade credit they need because of particular difficulties in assessing the creditworthiness of traders and because traders do not have sufficient collateral.

Where there is an absence of private credit, there may be a role for publicly funded institutions to increase access to finance for low-income producers. For example, the Development Bank of Mauritius (DBM) played a key role in providing finance for the expansion of existing business and the establishment of new firms in Mauritius. Among its several activities the DBM was involved in building industrial estates to encourage development in export processing zones (EPZs), setting up foreign exchange schemes for small and medium-sized enterprises, providing working capital through micro-credit, and extending preferential credit schemes.

Inadequate infrastructure is also an important source of supply constraints. In particular, poor transport infrastructure can prevent local farmers from getting access to large domestic markets and international ports.

Another barrier to full participation in international trade is the difficulty of establishing new industries in countries with poorly diversified industrial bases. As noted earlier, when the EU introduced its 'Everything but Arms' initiative in 2001, it extended duty-free access to imports from LDCs in 919 product categories, but the following, year imports were recorded in just 80 (Brenton 2003). Failure to diversify is particularly evident in Africa, where the share of agricultural value added in the GDP increased from 22 per cent to 25 per cent over the 1980–97 period while it fell from 18 per cent to 16 per cent over the same period for the developing countries as a group.

Figure 13.7 traces the long-term trends in the commodity structures of Tanzania and Malaysia. Malaysia, like most South-East Asian countries, was primarily agricultural in the 1960s and 1970s. These countries pursued a successful pattern of industrialization through import substitution followed by export-oriented growth. As

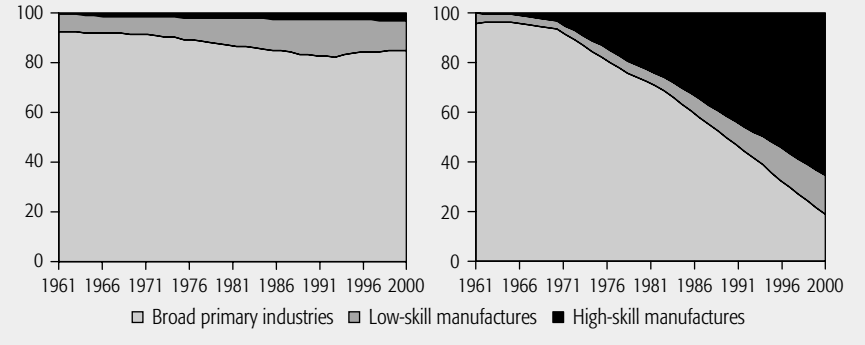

Figure 13.7. **Commodity structure of exports, Tanzania and Malaysia (% of total exports)**

Source: Bonaglia and Fukasaku (2002).

the ASEAN countries developed, they pursued a range of policy measures to offset the anti-export bias resulting from local protection under the import-substitution policy. These policies included incentives for private and foreign investment (particularly investment in new industries), EPZs, investment in infrastructure, and duty drawbacks for exporting firms.

Product standards

As well as supply constraints, developing countries might suffer from structural bottlenecks. Product standards—which require that exported goods comply with a wide range of technical standards and regulations set by the importing markets—are often a barrier to developing country exporters. There are currently over 100,000 standards and technical rules in use around the world (UNIDO 2002). These standards are designed with the intention of facilitating exchange and safeguarding health and safety. However, developing countries may find compliance difficult or prohibitively expensive.

The potential for standards to have a detrimental effect on LDC exports was recognized in the Uruguay Round. The Technical Barriers to Trade (TBT) Agreement and the Agreement on the Application of Sanitary and Phyto-sanitary Standards (SPS), both

negotiated as part of the Uruguay Round, were meant 'to ensure that technical regulations and standards do not create unnecessary obstacles to trade'.[28] Article 12.7 of the TBT Agreement specifically states: 'Members shall . . . provide technical assistance to developing country members to ensure that the preparation and application of technical regulations, standards and conformity assessment procedures do not create unnecessary obstacles to the expansion and diversification of exports from developing country Members'.

In spite of these agreements many developing countries do not have the ability to assist their producers to meet product standards. There are serious deficiencies in infrastructure, processing technologies, and national regulatory bodies. As a consequence, significant assistance from developed countries is required to build up their capabilities to conform to these product standard requirements if trade liberalization is to have its intended impact on the poorest countries.

UNIDO recommends a number of priority areas for international assistance to the institutional development of developing countries, including:

- A national/regional standards/standardization body. Standards are essential for production and trade, but also for consumer protection. To ensure that international (and national) standards are set in a balanced manner, developing countries need to participate in the drafting of such standards.
- A national/regional metrology system: a system that ensures that the measurements and tests required for all production, quality, and certification activities are consistent and correct. This includes operational laboratories for primary and secondary physical standards as well as certified reference materials for chemical and microbiological purposes.
- A certification/conformity assessment system: a system including internationally recognized testing facilities that are able to test products and certify that products and management/production processes comply with applicable requirements and standards.

[28] Preamble to the TBT Agreement.

- An accreditation system: a system which evaluates calibration and testing laboratories and other bodies involved in certification of products, systems, and processes, with a view to ensuring that testing facilities and methodologies, and thereby the certification activities, satisfy international standards.

Conclusion

Trade liberalization creates adjustment costs as resources move from one sector to another. This chapter has described several sources of adjustment costs (broadly defined) and concludes that adjustment to a post-Doha trading regime will be disproportionately costly and difficult for developing countries because of the loss of preference margins, the loss of revenue from trade taxes, institutional weaknesses including the absence of adequate safety nets, large implementation costs, lack of the finance required to restructure the economy, and the limited ability of poor populations to manage short-term unemployment.

The effect of adjustment can be mitigated by effective national and international policies to reduce the costs and facilitate the adjustments. For instance, economies facing a new onslaught of imports as a result of trade liberalization must find mechanisms to provide credit for the creation of new enterprises and the expansion of existing enterprises to take advantage of the new export opportunities, and macro-economic policies must be sensitive to these needs, ensuring that (real) interest rates are kept appropriately low. In the past, international institutions advising developing countries have not been sufficiently sensitive to these needs. But more than good policies will be required. There is a need for assistance, for instance to develop the required physical and institutional infrastructure and to provide compensation to alleviate the suffering of adversely affected groups. This in turn will require a coordinated and well-financed international effort. In the absence of a significant increase in international assistance, responsibility for these policies will fall

on resource-constrained domestic governments, and trade reform (if it is pursued at all) will come at the expense of other development priorities. As a result, even a development-oriented round of liberalization may fail to produce the growth benefits promised by the advocates of a new trade agreement.